THE JAPAN MAGAZINE

A REPRESENTATIVE MONTHLY OF THINGS JAPANESE

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Contents for March, 1921

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THE MID-PACIFIC MAGAZINE

The official organ of the Pan-Pacific Union is the *Mid-Pacific Magazine;* a 120 page illustrated monthly, published at Honolulu, Hawaii, the cross-roads of the Pacific. A Review of Pacific Reviews, as it were, with illustrated articles monthly on almost every land of the great Ocean. Read the Mid-Pacific Magazine for general information on Pacific lands, and the work of the Pan-Pacific Union. Subscriptions $3.00 a year, including membership in the Pan-Pacific Association.

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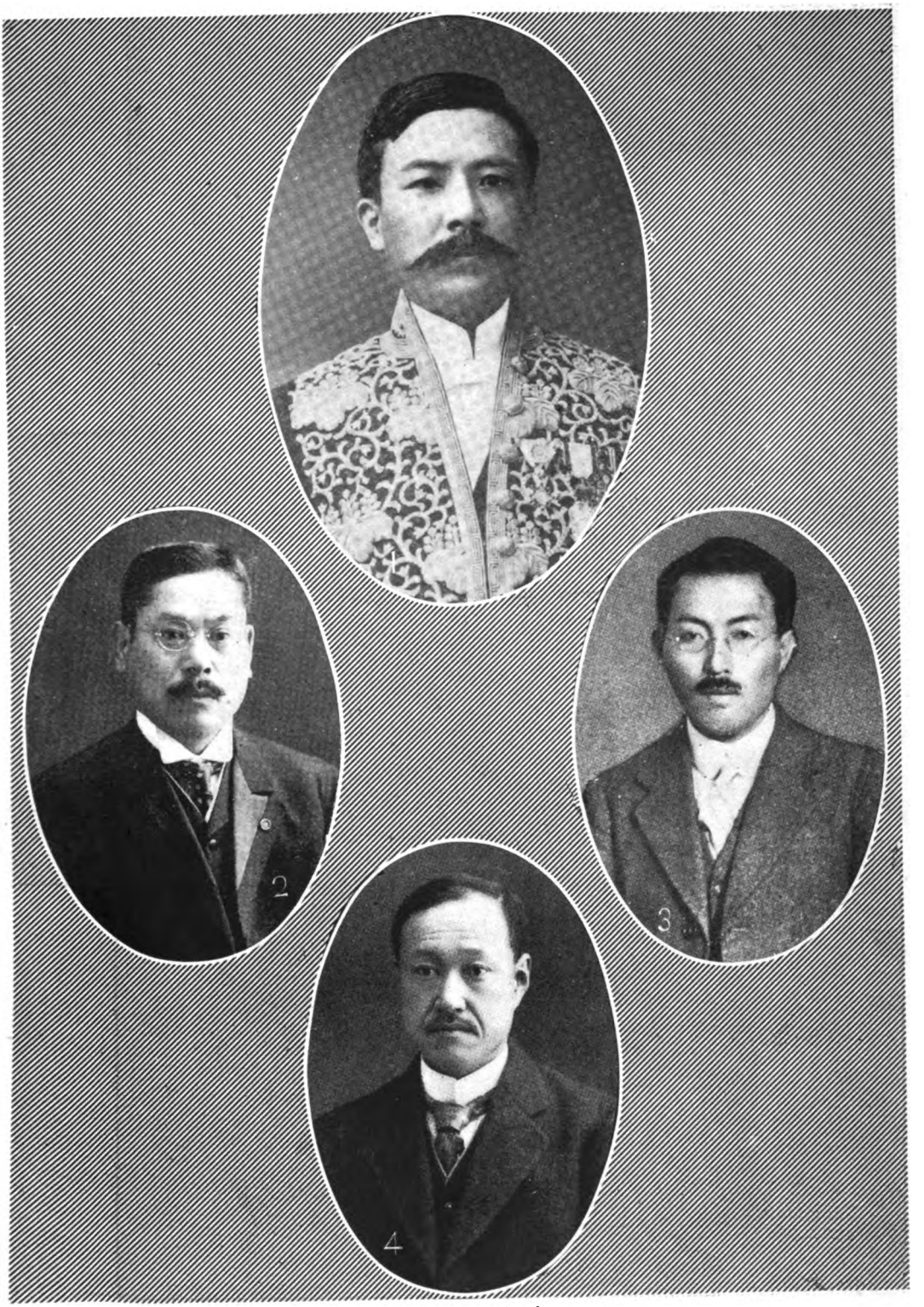

1 Hon. K Nagai
Governor. of Karafuto (Saghalien)

2. Mr. M. Imoto
Chief of Colo .ization Office

3. Mr. T. Shiroma,
Chief of Police Affairs

4. Mr A. Sagara,
Chief of Home Department

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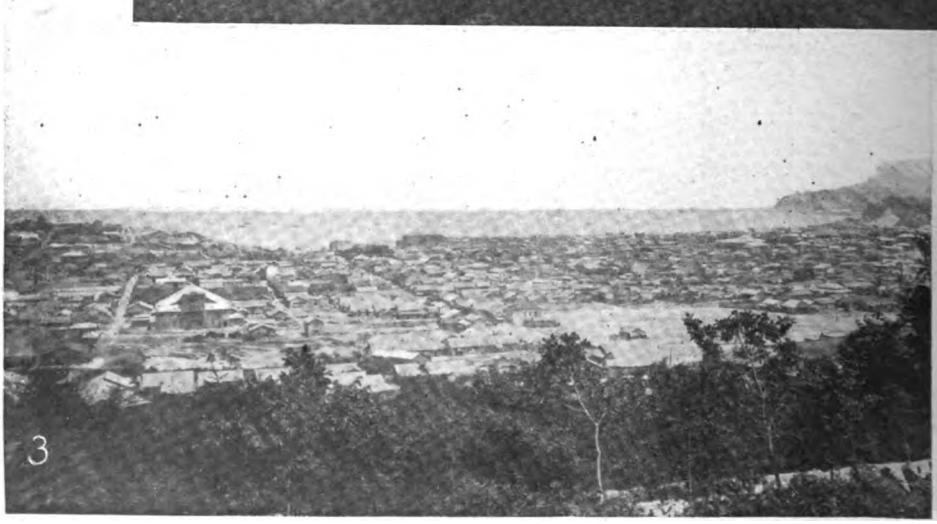

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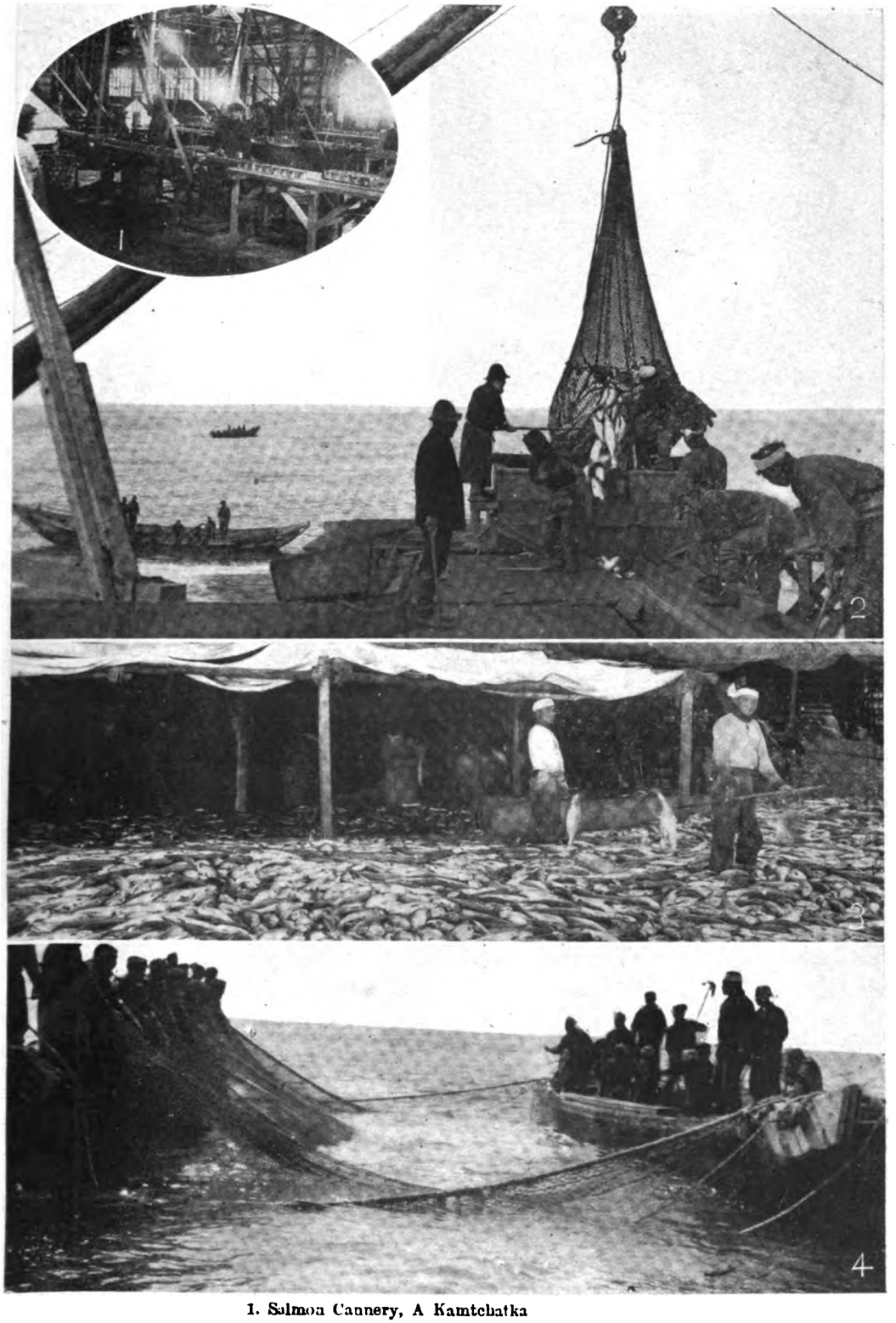

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3. Fish Sorting
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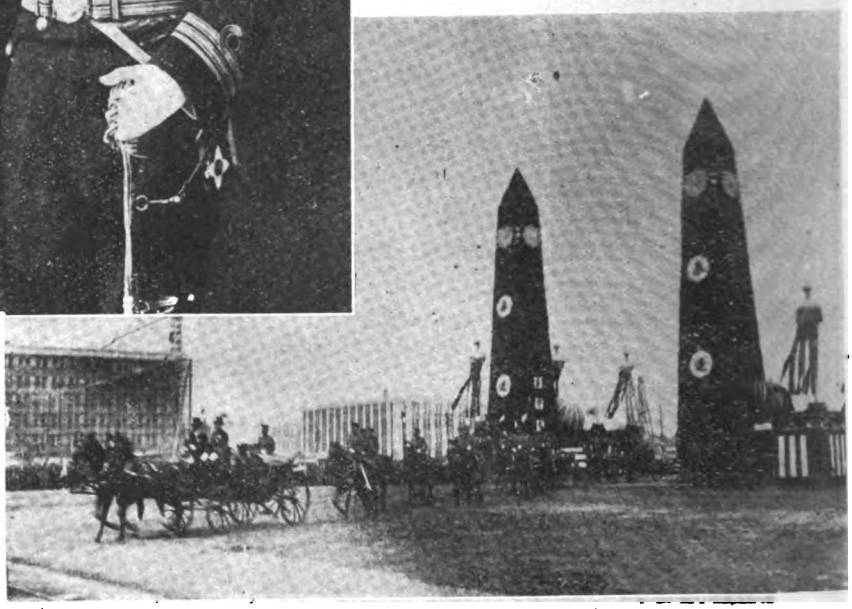

H. I H Crown Prince and his departure form Tokyo for Europe

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THE JAPAN MAGAZINE

VOLUME ELEVEN MARCH, 1921 NUMBER TEN

WORDS OF RESPECTFUL FAREWELL

IT is indeed without precedent in the history of our Reigning Family that His Imperial Highness, the Crown Prince, should undertake a trip overseas to visit foreign countries. The high qualities and superior ability with which the Prince has been endowed are such as to win the admiration not only of his own nation, but even of the world without.

Especially at the present time, when the popular mind is so changeable, and the period is one of such danger and uncertainty, the fact that the Heir Apparent to the Japanese throne is a young man of superior endowments and outstanding talents is a cause for deep thankfulness to the Great Providence which is thus signally blessing not only our nation, but also Asia, and even the whole world through him.

His Highness early studied the principles of imperial rule and has already completed the special training required to prepare him for his high position, and now he is boldly going forth to observe for himself the conditions in foreign lands and to study at first hand alien civilizations. That this will give brilliance to his fine character and add a special interest to the affection with which he is regarded by high and low alike cannot be doubted.

When His Highness has once stepped on European soil and seen with his own eyes the devastation wrought by the Great War during the almost five years of its continuance, he will hold the key to the present situation. We heartily pray that he may do this and later be brought in safety to his own land again.

We most reverentially offer these words of affectionate farewell to His Highness as he departs on this eventful journey.

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THE CANARY

By Saizō Yaso

Uta wo wasureta kanariya wa!
Ushiro no yama ni sutemashō ka?
Iye, iye, sore wa narimasen.

Uta wo wasureta kanariya wa!
Sedo no koyabu ni sutemasho ka?
Iye, iye, sore mo narimasen.

Uta wo wasureta kanariya wa!
Yanagi no muchi de buchimasho ka?
Iye, iye, sore wa kawaiso.

Uta wo wasureta kanariya wa?
Zoge no fune ni, gin no kai,
Tsukiyo no umi ni ukabureba,
Wasureta uta wo omoi dasu.

1

Silly little canary, forgetting your song so quickly!
Shall I send you away into the hills alone?
No, no, that I can never do.

2

Silly little canary, forgetting your song so quickly!
Shall I throw you out into the kitchen garden?
No, even that I cannot do.

3

Silly little canary, forgetting your song so quickly!
Shall I whip you with a willow twig?
Ah no! that would be too severe.

4

Silly little canary, forgetting your song so quickly!
If you float out on a moonlit sea,
In an ivory boat, with a silver oar,
Then, surely, the lost song will come to you again!

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1. Train Passing Through Forests
2. A Catch of Herring
3. Skiing in Saghalien

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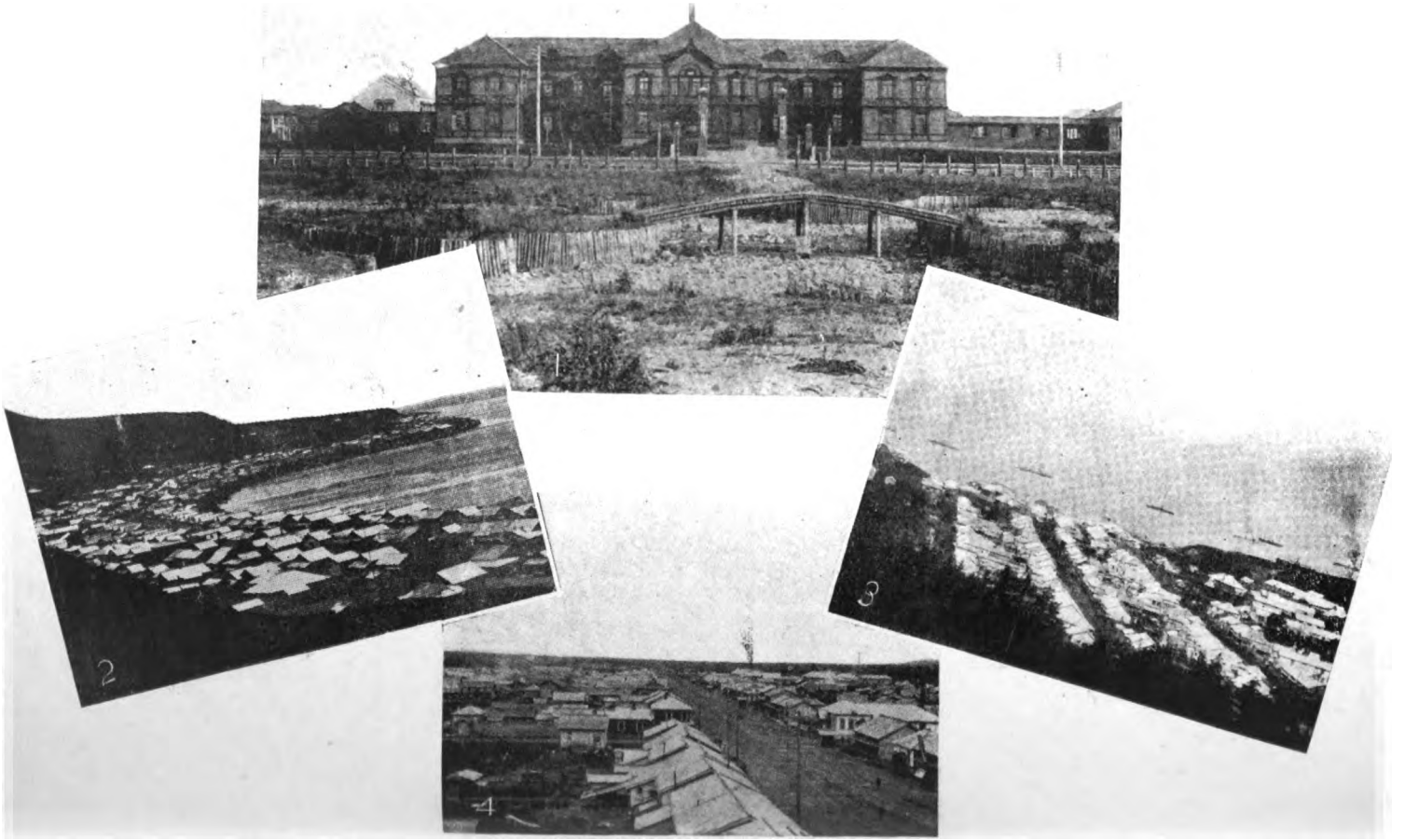

Karafuto Government Headquaters, Toyohara

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PART I

SAGHALIEN

1.—INTRODUCTION

ALTHOUGH it is fifteen years since Saghalien came into the possession of Japan, this region has not been developed to any great extent even yet. Because, compared with some of our other colonial lands, it has been only recently acquired and also because it is situated in the far north its exploitation has been slow.

Then, again, the real nature of this region and its possibilities have not been well understood by our people. Many misconceptions have been entertained. It has been supposed that its ports were icebound nearly the whole year, and that ferocious beasts abounded throughout the island; also that the natural resources could not be developed by immigrants satisfactorily. However since the sad events which occurred recently at Nikolaievsk have focused public attention upon the region north of us, we have waked up to a realization not only of the strategic needs, but of the economic possibilities as well.

As to the prospects of success in the latter field, there are two opinions advanced. One is that the climate is too severe, the time during which work can be carried on is too short, and the soil too poor to pay for the trouble. Hastily concluding that it is not a fit land for immigrants, those holding this view would confine economic operations to the exploitation of coal, fish, and forestry resources, and discourage the idea of permanent colonization. We who have personally visited the island, however, and given thorough study to the matter, consider this a hasty and premature conclusion, believing that there is a bright future for the island.

Those holding pessimistic views in this matter compare the climate and soil with that of the interior of Japan, but this is a mistake. The northern boundary of the island is only 50° N. latitude, corresponding to the latitude of France and Germany. For example, Toyohara city, where the Saghalien prefectural government is located, is regarded as a cold spot, but compared with Mukden it may be called quite mild; so if we realize that it is only as far north as Northern Germany, Denmark, Norway, Canada and parts of North America, we shall be obliged to admit that as those peoples have had no serious difficulties in subduing nature, so our people can do likewise. What great progress the federation of German states made, and how notable the

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achievements of Denmark, Sweden and Norway in agriculture and industry! Though Canada seems a wild, bleak country, England certainly did not hesitate to undertake extensive operations there, employing men and means lavishly. So we must not give up the case of Saghalien.

That part of the Island owned by Japan consists of a little more than 2,200 sq. *ri.*, i.e. a little less than Kyūshū or a little more than Formosa. But the natural resources are abundant, both in the sea and on the land. On land, a fertile soil is found practically everywhere and as to agricultural operations, while these must differ from those of Japan proper, it is entirely possible to produce rich crops either on a large or small scale if the proper methods are employed.

Again, as to forests, good timber abounds everywhere, and while afforestation by alternative cutting and planting is not easy at this stage of the development, yet some substitute is found in the natural renewal of the trees and in the future it will not be difficult to secure an inexhaustible supply. Again, in regard to mining: at present there is one petroleum well and one coal mine, but it is no exaggeration to say that coal underlies the whole island, while its richness and depth cause surprise to all investigators. And lastly, as to the fisheries industry, we may say that this is expected to prove more profitable even than the similar industry in Hokkaido. True, in recent years on account of successive seasons of inclement weather, many have turned to mining, but nevertheless fishing is by far the most profitable industry in Saghalien.

One more source of profit is found in grazing, the whole region being covered with rich, sweet grass growing from 6—10 feet high—nothing like it in Japan. While in the possession of Russia, stock-raising was considered an occupation especially suited to the island, and horses, cows, sheep and even hogs flourished there. The latter it is not easy to raise where epidemics are common but there is little fear of disease here.

In recent years, also, Saghalien is being considered a very hopeful field for the development of the black-fox fur industry. The prefectural government has established an agricultural experiment station which has already accomplished something and promises more for the future.

2.—HISTORY

Historical records have been altogether lacking heretofore, so it is impossible to dogmatize as to the original inhabitants of the Island, but it seems reasonably certain that these were Ainu who migrated from Hokkaido, while in addition there may have been settlers from the adjacent Chinese territory of Santan, who are thought by some scholars to be the ancestors of the present-day Giliaks and Orocks.

Lord Matsumaye's Superintendency

In the year 1651 it is known that Lord Matsumaye sent Den-emon Kakizaki, his chief retainer, to make an inspection of the island, and report as to the outlook for fishing. And again in the middle of the 18th century, official commissioners

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were sent there twice during twenty years. As the Japanese had engaged in fishing in these regions from early days two official stations had been established for trade—Kushunnai and Shiranushi. This island was originally a Japanese possession, and was once directly controlled by the Tokugawa Shogunate. In 1807, however, it again reverted to the former superintendent Lord Matsumaye, at which time the government ordered the two clans Nambu and Tsugaru to place garrisons in Shiranushi. This was then called North Yezo, and an administrative office was established there in order to protect the fishing industry. The four feudal clans, viz., Aizu, Sendai, Akita, and Shonai alternately supplied troops to garrison the place. Besides the headquarters post, there were a number of substations with officers of lower degree in charge, in different sections, as Kushunrotan (Otomari), Shiranushi, West Tonsoi (Maoka), Kushunnai, Ware.

Colonization Period

In June, 1868 (Meiji, first year), a Colonization Bureau was established at Hakodate and Judge Kansuke Okamoto appointed civil administrator of Saghalien. His head office was at Otomari, and substations were maintained at important points. In 1890, the Saghalien Colonization Bureau was established, and Kiyotaka Kuroda sent out as governor, but very soon the two Administrative Offices—Saghalien and Hokkaido—were combined in Hokkaido and the Saghalien port made a branch merely. At this time the fishing stations were placed under government supervision and this industry was encouraged, while farmers and miners were urged to migrate to Saghalien to cultivate the soil and exploit the mines. At this stage, highways were mapped out, post-offices and hospitals established, and in general sanitation and living conditions improved.

Collision with Russia and Final Settlement

Even before this time, the Russians had been steadily encroaching upon the southern half of the Island from the north, as the administration of this region by the Matsumaye clan had become merely nominal and quite ineffective. Cossacks exploring the Kamtchatka peninsula were constantly passing back and forth among the Kurile Islands, keeping watch over the respective territories claimed by Japan. Gathering together near the Amur river, as a base, the Russians gradually invaded Japanese lands more and more boldly, especially from Northern Saghalien.

Disputes became frequent and serious, and a satisfactory settlement was difficult to find. The Russians insisted that all of Saghalien including the islands north of Etoro belonged to them. After much discussion, in 1862 the Shogunate government sent out Shimotsuke-no-kami Takenouchi and Iwami-no-kami Matsudaira as envoys to the European Powers, to propose a settlement of the boundary line between Russia and Japan at Lat. 50° N. running through Saghalien. Civil war in Japan caused these proceedings to come to a standstill for a time, but in 1866 two more commissioners were sent to Russia to take up the question more fully. These envoys were Yamato-no-kami Koide and Suruga-no-kami Ishikawa. This attempt too, was unsuccessful. Later, in 1874, Buyo Enomoto was sent as minister plenipotentiary to Russia. He offered to settle the boundary at Kushunnai. As this offer was not accepted, the Japanese finally agreed to settle upon an exchange basis, that is, the

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Kurile Islands were to be recognized as Japanese territory and Saghalien as Russian. Disgraceful as this treaty was felt to be, it was accepted for the time.

Japan-Russian War and Return of Saghalien

Thus we see that though Saghalien had clearly been a Japanese possession from of old, it became for a while a part of the territory of Russia. After thirty years, war broke out between the two countries, and in 1905 Lieut.-General K. Haraguchi, commander of the 13th Division, entered the Bay of Aniwa, Saghalien, under the protection of the 3rd and 4th squadrons, and landing without difficulty, chased the enemy northward. After ten days the foe was attacked and defeated at Vladimiroska (now Toyohara) and the central plain of the Island was captured.

Later Haraguchi ceded the command of the southern forces to Major-General Takenouchi and himself led the northern forces to the far north, landing at the port of Alexandrovsk, the administrative center of the whole Island. After a stubborn resistance from a dense wooded position, the enemy was obliged to yield; an unconditional surrender was forced on the 30th of the same month. On Aug. 7, 1905, our army assumed military administration of the whole Island.

When the Portsmouth treaty of peace was concluded, it was agreed that the southern part of the Island, from Lat. 50° N. should permanently remain in our possession, and in March, 1907, the civil administration was abolished and the Karafuto Prefectural Government established which still continues. The name Saghalien has been changed to Karafuto.

3.—LOCATION AND GEOGRAPHY

On the east is the great Sea of Okhotsk, and on the west the Maritime Province of Siberia separated by Mamiya strait. On the south is Aniwa Bay, with its two promontories of Nishinotoro and Nakashiretoko, almost within hailing distance —40 *ri* or 100 miles—of Soya point on the north coast of Hokkaido. On the north the parallel of Latitude 50° N. marks the boundary between Russian and Japanese territory. The length of the Japanese half is about 610 *ri* or 1,525 miles, and the width from 7-40 *ri*, or 17½-100 mi. The area is app. 2,200 sq. *ri*.

As to topography, the land is long and narrow, mountain ranges and rivers running north and south; two chains of [illegible]s are found, one on the east and one on the west side, but both run lengthwise of the island. Hence the natural division, according to physical features, would be into three sections, viz., western mountainous, lowlands, and eastern mountainous. However, the highest plateau near the northern boundary is only about 4000 feet and the slope to the lowlands is so gradual, that such distinct demarkation is impracticable. The chief rivers running between the tablelands of east and west are the Horonai, Naibuchi, Suzuya, Rutaka, etc. Along these water courses the land is especially fertile and luxuriant forests flourish, while in the adjacent seas, marine products abound. As under the earth, too, coal and other minerals are found in rich stores, this would appear

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indeed a heaven-blest land. The only serious lack is good harbors, as the coast is notably deficient in indentations and sheltered coves and bays.

Climate

Karafuto or Saghalien has long been considered a place of snow-covered plains and ice-bound rivers and forbidding mountains, but in reality, as we have said before, it is not so stern a land, and there is no serious obstacle to agricultural and industrial activity, since the latitude is the same as that of France and Germany, long-inhabited and fertile lands. The lack of wide prairies is a disadvantage and also the fact that the shores are washed by both cold and warm currents which makes a striking variation in climate; the average temperature in a year ranges from 3°–50° Centigrade, becoming gradually colder as one journeys from southwest to northeast. The difference between the summer and winter temperature is very great: in summer even 90° F. is not uncommon, just like midsummer in Japan, but in winter, on the contrary, 30° below zero is the point to which the mercury sometimes falls. Perhaps it may seem to Japanese an impossibility to work in such a temperature, but this is not the case, as one of the main industries in Saghalien can be carried on perfectly well in winter, viz., cutting and hauling timber. Indeed this is done largely in the cold season, proving that the cold does not debar from active work.

Population and Racial Stocks

Many people suppose that, just as in Chosen (Korea) and Taiwan (Formosa) a large number of Formosans and Koreans are found, so in Saghalien many Russians remain, but this is also a mistaken idea. Very few foreigners are found in the Island, the majority of the inhabitants being now Japanese. The population is at present about 10,000, distributed nearly as follows:

DISTRIBUTION OF POPULATION

Japanese	
Japanese	88,613
Chosenese (Koreans)	302
Total	88,915
Aborigines	
Ainu	825
Giliaks	108
Orocks	331
Total	2,172
Foreigners	
Chinese	15
Russians	99
Germans	1
Swedes	1
Total	116

Before the Island came into our possession there were very few permanent settlers, as the inhabitants were chiefly temporary laborers. Since 1905, however, the settlers have been increasing, as they have been drawn thither by various inducements. Immigration has been encouraged, the opportunities offered in the Island have become better known, and the colonists have gradually become more attached to their new home. A large number have already settled upon definitely located farms, have reclaimed and cultivated new lands, and laid the foundations of a second home. As harbors are constructed and coal mines opened up, doubtless immigration will steadily increase.

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4.—EDUCATION

To provide educational facilities for the increasing population, elementary schools have been built in increasing numbers, not only in Otomari, Maoka, and Toyohara, but also in each village, and the establishment of private schools has been encouraged by the granting of subsidies by the prefectural government; much effort has been expended by the present governor in this direction. He is devoting mind and heart to the work. The salaries of teachers have been doubled from the present fiscal year, the deficiency being made up from the government funds, thus solving successfully what has long been a vexed question in Japan, and bringing prosperity to student and teacher alike. The future will show the good results of the governor's wise actions.

The number of teachers and pupils enrolled in the various schools at the close of the year 1919 is shown below:

ELEMENTARY SCHOOL STATISTICS

	Govt. Schools	Private Schools	Total
Pupils	3,008	6,836	9,844
Teachers	53	225	278

Middle Schools

The Karafuto Middle School was established in 1912 at Otomari, and at the end of 1919 there were 16 teachers and 264 students.

Girls' High Schools

The Karafuto Girls' High School was established in Toyohara in 1916 and at present there are 9 teachers and 106 students. A new building is under construction costing ¥225,000, and new applications are constantly being received. In addition supplementary and private schools are springing up, and the educational outlook is bright. At present the demand for schools is fairly well met.

5.—HEALTH

In general the sanitary conditions are good, and epidemics are almost unknown. Since 1905, there have been only a few sporadic cases of typhoid fever, diphtheria, etc. In 1907 there was a little trouble with dysentery at Toyohara, and in 1909 an outbreak of small-pox among the aborigines on the east coast near the boundary line, but this was soon stamped out, and nothing serious has occurred since in contagious diseases.

Hospitals

The Government hospitals established at Toyohara, Otomari, and Maoka are well equipped and supervised. In addition medical aid is available in villages and towns as well as veterinary service by the help of the prefectural office. Some effort is made also to improve sanitary conditions.

Waterworks

A waterworks system is already in operation in Toyohara, and similar work is projected in Otomari.

6.—MARINE PRODUCTS

The Karafuto fisheries, as those of Hokkaido, are reckoned among the important national assets. Since the Tokugawa era our people have gone to

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Karafuto to engage in this remunerative occupation. The income from the fisheries is one of the chief sources of the wealth of the prefectural government. Agricultural gains have somewhat fallen off in recent years, but this need give no cause for pessimistic predictions. In the year 1918 the total receipts from this source amounted to ¥15,000,000.

Herring

This must be reckoned the most lucrative branch, in estimating the harvest from the sea, as the annual receipts are ¥6,000,000. The stations are on the western coast and in Aniwa Bay. The best points are between Tobukeshi and Nayori. Though the amounts vary with the different years, at a rough estimate the annual take is 250,000 *koku* (1 koku=4.96 bu.)

Trout

Trout fishing follows herring in the amount of profits received. The fishing stations are mainly on the eastern coast, such as Taraka and Niitoi, the Horonai river being a central point, while on the southern coast Motodomari and Ochopokka are important points, with the Naibuchi river as a center.

Salmon

Both summer and autumn are good seasons for this fishing, different names being given to the product, according to the season in which it is caught. The salmon fields are comparatively limited, the summer variety being found about Shikuka on the eastern coast, and the autumn variety on the western coast, toward the south.

Crab

Considerable crab fishing is carried on in the west, and there is a project afloat to consolidate the factories, secure additional capital and improve facilities. The product is exported from Yokohama to foreign countries.

In addition the profits on cod, turbot, seaweed (laminaria Japonica) trepangs, scallops, whale, etc. are increasing every year and the outlook is hopeful.

The catch in these various lines is utilized in different ways. From herrings oil is extracted, and as by-products mikaki, roe, young herring, sesame, donishin and Sasame are produced and sold, while salted herrings have been exported to China since 1910. In addition, salted and smoke-dried trout and salmon and edible seaweed are prepared for trade, as also salted cod, while cod oil is now manufactured by an improved process and the product estimated at 30,000 *koku* with over a hundred factories in operation.

7.—FORESTRY

This is one of the chief resources of the Island, and is remunerative beyond the imagination of the Japanese in the interior. All these timber lands are primeval forests and their area is equal to 3,350,000 sq. *cho*, or 90% of the entire area of the Island. With the exception of cities and towns, sandy sea beaches, portions of the banks of rivers and agricultural and pasture lands, the whole Island is covered with luxuriant virgin forests.

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KARAFUTO FORESTS

Kinds	Area	Volume (koku)
Evergreen	2,104,462 sq. cho	1,662,945,646
Deciduous... ...	473,750	64,312,943
Mixed	361,898	* 113,800,316 † 60,216,812
Treeless land ...	160,472	
Tsundra	252,130	
Total... ...	3,352,712	* 1,776,745,962 † 124,529,755

The evergreen trees are mainly Yezo-matsu (silver fir=Pice ajanensis), Todo-matsu (abies Mariesii), and larch. Evergreen forests include all of the trees above mentioned; but there are also forests of larch alone. The evergreen forests cover about 80% of the area of the entire forest lands. The deciduous trees are found chiefly on the higher parts of mountains and hills and on the level lands along the river courses. In the mountainous sections, the white birch and *nanakamado* (Pyrus sambucifolia), trees abound and in the level lands along the rivers and streams, the black alder, willow and *nara* (Quercus crispula) grow together. Evergreen and deciduous trees mixed rank next to the deciduous forests in the hilly sections and mostly occupy hill and mountain sides. The silver fir and *todomatsu* are mixed mainly with white birch and *nanakamado* etc.

NOTE: (1 sq. cho=2.45 acres) (1 koku=10 cu. shaku). * Evergreen. † Deciduous.

Utilization of Timber Lands

Karafuto authorities have issued special directions concerning the management of the national forest and agricultural lands and have opened the way for entrepreneurs to make voluntary contracts; there is also provided a convenient means of disposing of lands for a term of years.

The Pulp Industry

The timber of the Island supplies materials for a most ideal industry, viz., the production of wood-pulp and there have appeared already: The Karafuto Industrial Joint-Stock Company (with factories in three places: Toyohara, Otomari and Nodasamu). The Karafuto Industry Joint-Stock Co. (with factories in Tomarioro and Moaka), The Japan Chemical Paper Material Joint-Stock Company (with factory in Ochiai) and some others. The amount of the production of these several companies is 70,000 tons estimated at ¥18,000,000 in value. Besides these, though they have not yet been started, there are several projected enterprises. The pulp produced in these factories is transported to the interior. Then again there are many engaged in the planing-mill industry, with more or less capital involved. The forestal revenues in 1918 reached ¥4,700,000.

8.—MINING

As to the mining industry in the Island, according to investigations made after this became a possession of our Empire, the following facts were established: that extremely rich mineral wealth lay concealed in the earth and that this was of various kinds. However, except coal, the proportions of other minerals are very trifling. Alluvial gold mining once appeared hopeful but after investigation it was seen to be comparatively valueless, but as to coal, there is in reality an inexhaustible supply. The quantity of coal in the whole of Japan

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1. Distant View of Muika Village, Among the Orocks, Sagha'ien
2. A Rye Field, Sagha'ien
3. Farmers' Houses, Saghalien

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1. Forest Trees of South Sagualien
2 Marine Experiment Station
3. Edible Seaweed (Laminaria)
4. Sable-Fox Breeding Farm

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proper is estimated at 2,500,000,000 tons, but one field alone—that at *Naibuchi*—is estimated at 1,500,000,000 tons, according to latest investigations. It is said that over 4,000,000,000 tons of coal must underlie the entire Island. In truth, it is safe to say that the treasury of the Empire lies on the northern frontier.

Such rich coal fields, however, have been closed down, in large part, since it came into our possession. In the near future they will be opened, no doubt. Both government and private co-operative mining corporations will be organized with the huge capital of ¥80,000,000 in order to exploit this rich field. When this is done the development of the Island will be notably rapid. Besides these closed mines, there are not a few private companies at the present time exploiting the coal lands. It is very regrettable for the advancement of the Island that the present coal supply is not even adequate to meet the demands within the Island itself, as transportation facilities are so incomplete.

9.—TRANSPORTATION AND COMMUNICATION

Navigation

The steamship lines connecting the Island and the Interior are divided into three kinds, viz., (1) Steamships run by the Karafuto Prefectural Government; (2) Steamships run by the Department of Communication and (3) Steamships going abroad.

Over the sea routes mapped out by the Karafuto authorities on the eastern coast, three steamers ply, viz., *Sumidagawa Maru*, *Manseigen Maru*, and *Kirishima Maru*. The *Sumidagawa* and *Manseigen*, starting from Otaru, run during six months (May—October) between the sea ports in Aniwa Bay and Shikuka, Chiriye and Kaihyo Island. The *Kirishima Maru*, starting from Otaru, runs on the routes in Aniwa Bay and to various places on the eastern sea coast and to Motodomari, 17 times during six months (May—October). The western coast routes are supplied by four steamships, viz., *Tairei Maru*, *Tenyu Maru*, *Kisshin Maru* and *Honto Maru*. The *Tairei Maru* runs between Otaru, as the starting point, and Tomarioro 23 times during 8 months (April—November); and the others in the same manner, Otaru or Fushigi being the starting point, run between the various ports on the western coast. On the Wakanai line, the *Kitami Maru* alone runs between Wakanai and Otomari, 12 times during six months (May—October).

As to the steamships running on the routes mapped out by the Department of Communications, two ships—the *Hirosaki Maru* and *Kushiro Maru*—run between Hakodate, as the starting point, and Maoka on the western coast, *via* Otaru and Otomari during April and 36 times during six months (May—October) and 5 times in November and twice in December.

The sailings given above are mostly those of the summer and autumn, the winter sailing beings almost exclusively

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over the routes mapped out by the Karafuto authorities. The official steamships sailing in winter are three, viz., the *Hirosaki*, *Tairei* and *Tenyū*. Through these three ships connection between the Island and the interior is fairly complete.

Harbors

Since Karafuto has at present no good harbor we find it quite inconvenient to communicate with the interior, especially in the winter season when except Honto and Maoka on the western coast, the harbors are closed by ice, thus precluding the entrance of steamboats. The approval of the Diet was obtained last winter for the improvement of Otomari harbor, and work has been commenced already, but four years will be needed to complete the task, which it is estimated will involve the expenditure of ¥4,900,000. This long-discussed project will doubtless become an accomplished fact by the earnest efforts of our present governor. Work is going on in Honto harbor, also, but on a smaller scale than at Otomari. If, now, the other harbors, Maoka, Tomarioro, and Sakayehama could be improved, communication between the Island and Japan proper would be vastly facilitated.

Railways

At present the lines of railway completed cover only a small part of the Island. These include one of 56 miles from Otomari to Sakaehama, *via* Toyohara, and a branch line from Konuma to Okukawakami (8 miles) which has recently been opened. Another line of 30 miles running from Honto to Maoka on the west coast and one of 30 miles extending from Maoka to Nodasamu will probably be completed and opened this year. These new lines will be a blessing to the west coast where means of transportation are still quite inadequate. Here we may mention the bill relating to a newly projected line from Maoka to Toyohara which was passed by the Diet this year. If the engineering work is completed this year, a long-pending, knotty problem will have been solved. The efforts of our governor seem in a fair way to be crowned with success here, too, and a line cutting the island from east to west, long desired, will at last be obtained, at an expenditure of ¥4,600,000. In addition a light military road may be constructed from Sakayehama to Higashi Shiroura on the east coast, as this seems to be necessitated by the presence of troops, viz., two companies at Toyohara and one company at Nairo of the Shikuka branch government office. The Karafuto garrison posted the troops, and if they construct the railway in consequence, additional facilities will be secured.

Roads

The main highroads connecting the principal towns in the Island are the following: One of 25 *ri* between Otomari and Sakayehama, *via* Toyohara, one of 17 *ri* between Otomari and Tomunai, one of 19 *ri* between Toyohara and Maoka, one of 15 *ri* between Nodasamu and Pirochi, and one of 7 *ri* between Tomarioro and Kushunnai already opened. Besides these there are farm roads running through the villages and extending some distance beyond in various directions. These are 73 *ri*, 9 *cho* in length and are of great assistance to travelers.

Postal Service

On account of inadequate transportation facilities the inconvenience experienced by travelers is no trifling matter. Hence a good system of post stations has been established, the

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number of such being at present 83. These provide lodging for travelers and relays of men and horses for the postal service. Thus communication facilities are being rapidly supplied. For postal connection with Japan proper the Karafuto steamship lines are employed as well as those of the Department of Communication, while telegrams may be sent from Maoka and Otomari. Between the chief towns in Karafuto telephone wires convey messages, and even a radio station will soon be available, as one such is now being put up at Otomari.

10.—AGRICULTURE

After the Island came into our possession, the agricultural enterprises of the Russians during their period of occupation were thoroughly studied by specialists in agriculture and engineering. They reported the soil and climate both favorable to farming operations and, since 1905, the authorities have encouraged the migration thither of agriculturists, to become permanent settlers. The number of farmhouses is now 4000 (including those who farm as a secondary occupation merely), the value of farm produce has reached the figure ¥2,080,000 annually, with additional receipts from stock-raising of over ¥93,000. Land used for farming is mainly the levels along the river courses. As the soil is very fertile good harvests can be secured for several years without the use of fertilizers. The land already cleared by the Russians was found to be very small in extent, so it was necessary to set about reclaiming the virgin forest and swamp lands at once.

Reclaiming Land

Naturally the method employed differs according to the nature of the land to be reclaimed, whether forest, plain, or swamp land. In clearing forest lands, the trees must be cut down and utilized as fuel or made into charcoal, while branches and grass must be burnt. Next the soil must be spaded by hand for several years until the stumps rot, after which horse plows may be used. On the plains plows may be used at once as soon as the wild grass has been cut and burnt, while swampy land can be cleared and cultivated after it has been drained. Where the ground is not too wet, high ridges may be made and the seed planted in these. The labor needed for clearing land is about 10 or 15 men per *tan* (1 *tan* = 2.45 acres), while a horse plow will turn over 2 or 3 *tan* per day.

Farm Produce

The crops which mature everywhere may be specified as wheat, barley, rye, oats, potatoes, pease, horse beans, with flax, hemp, wild rape, mint, herbs, and herbaceous roots, etc. In comparatively warm sections, as the southern part of the west coast, rice, sorghum, maize, soy beans, red beans, and *suguri* may be grown, too. During recent times an attempt has been made to propagate fruit trees—apple, cherry, peach, etc. Of the above mentioned products those regarded as staples are rye, potatoes, pease, and vegetables, the two former being especially necessary as

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food for the people. Aside from their food value various by-products, as starch, are manufactured from them, and these may be important articles of export in the future. As to oats, they are used as food for cattle and horses and also sold in the Island. Pease are used as food and also exported abroad. These, with potatoes, are promising exports. The agricultural produce, while differing in kind and quality, is in the main superior and compares well with similar produce in Hokkaido and Japan proper.

Cultivation

Methods of tillage differ somewhat from those in use in Japan proper, where the intensive method is necessarily practiced. In the Island the acreage is not so limited, the season is very short, and each man is obliged to cultivate a large amount, so the process is naturally more superficial; but large harvests are secured even by crude methods, horse power supplants hand work, and fertilizers may be dispensed with, for a few years at least. Later animal and artificial manure my be used and rotation of crops practiced. As the farming season is short, about from the first of May to the latter part of September, all work must be rushed to the utmost. One family can cultivate from 2 to 15 acres, according to the number of workers and time of immigration; average about 6 acres per family.

Stock-Raising

The latitude and climate make the Island a suitable place for stock-raising. As animals are so largely employed in agricultural work, they are being raised in steadily increasing numbers. Horses are used for plowing and cultivating, etc., and also for hauling produce. Cows are used to supply beef and milk, which latter may be sold or made into butter. The outlook for this business is very hopeful. The number of cattle at present is 1,524, horses 5,245, and hogs 591. Poultry-raising is quite promising and sheep may be kept as a side line. Finally, we may mention fox farming as an especially hopeful iudustry and one peculiarly suitable for this locality. Several companies, as well as private individuals, are experimenting with this line of work.

Farmers

As the farming is mainly that in which horses and oxen do most of the work, there are few tenant farmers, but in general only peasant proprietors, though sometimes trade and fishing are engaged in as subsidiary occupations. Many farmers, especially in winter, are engaged in cutting and transporting timber. The localities in which most of the agriculturists are found are along the three river courses, the Rutaka, Suzuya, and Naibuchi and on the coat of Aniwa Bay; also on the west coast, from Kushunnai to Minami-Nayoshi. In the first-named locality, the population is concentrated in villages, following the Russian system. From 15–100 houses constitute a village and these are separated from each other by only a few miles. On the west coast, however, with a few exceptions the farmers live in detached homesteads, on narrow but rich lands, where the topography does not favor concentration in villages. The style of house adopted was formerly that built of logs as best fitted to protect from cold, but now these are sometimes combined with plastered walls. The main food is rye and potatoes, with sometimes a little rice, and vegetables and fish as side

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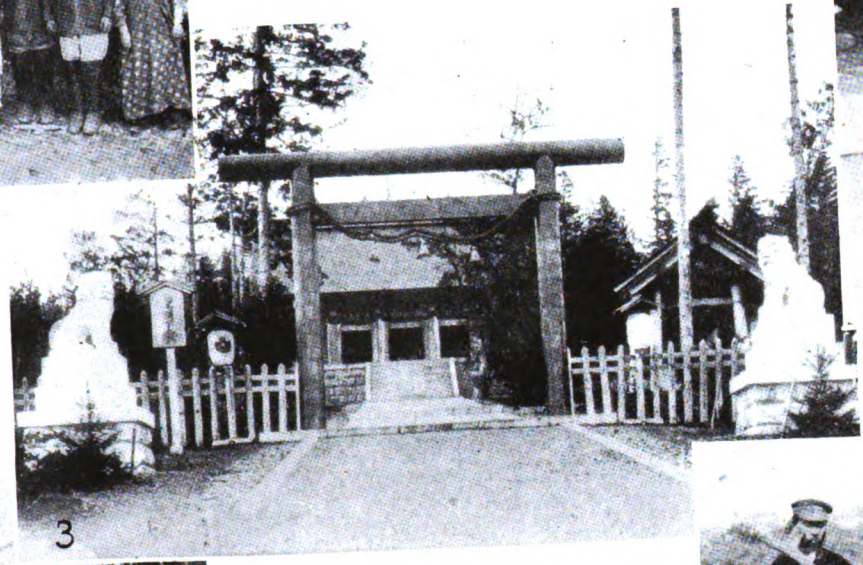
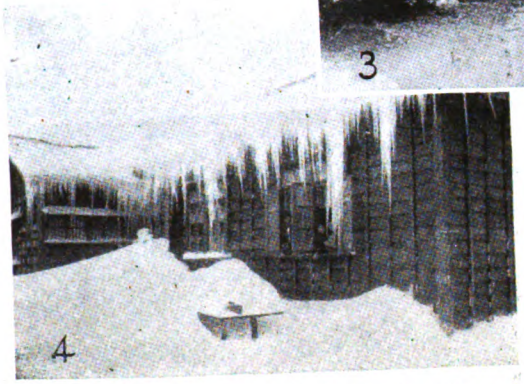
Naturalized Russians
Remaining in Saghalien

Orock Woman



The Karafuto Shrine



Japanese House hung with Icicles, Saghalien

Giliaks

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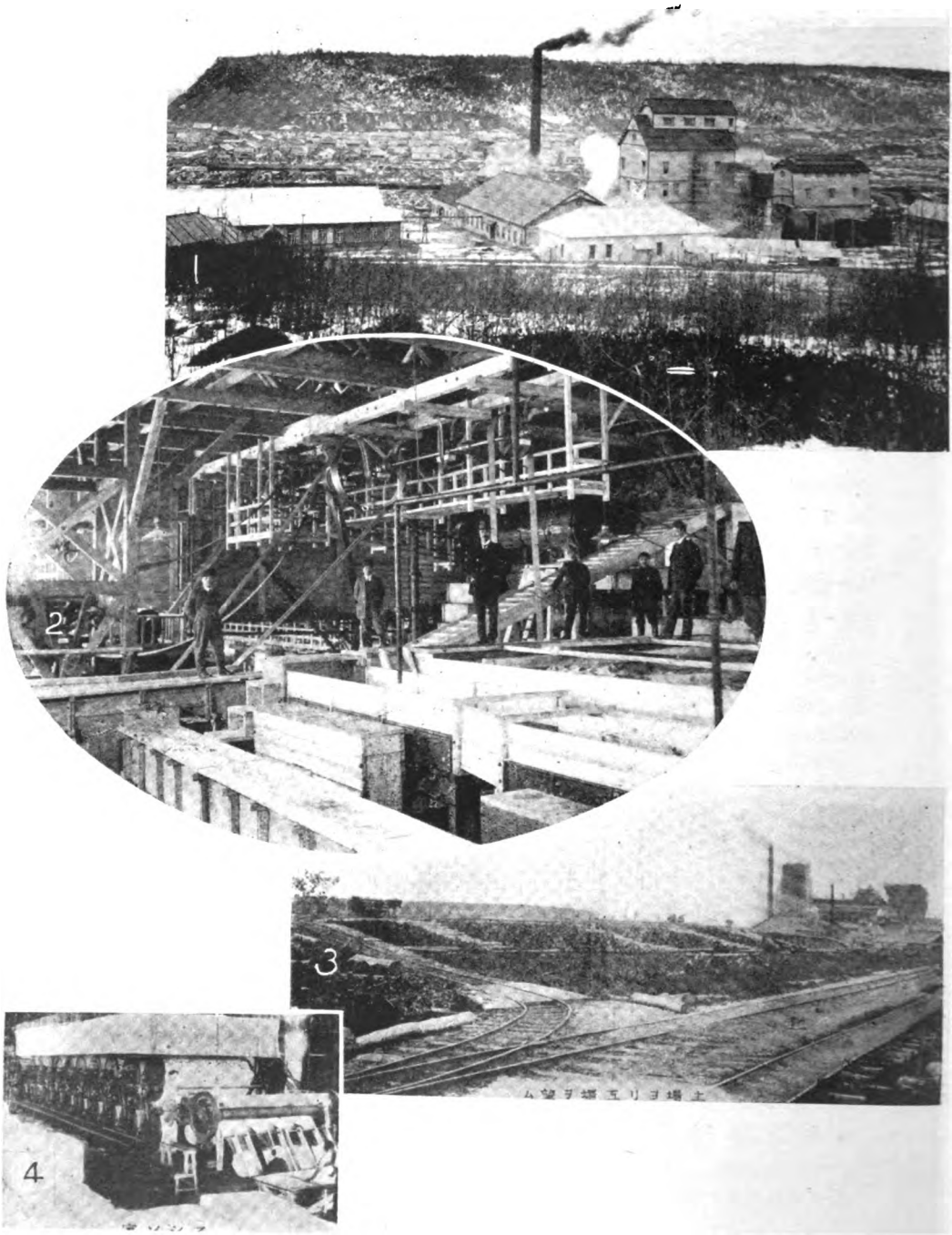

1. General View of the Karafuto Sangyo Koisha (Saghalien Pulp Manufactory)
2. Interior View of Same
3. General View of Nihon Kagaku Shiryo Kaisha (Pulp Manufactory)
4. Interior of No. 3

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dishes. Farmers cultivate the soil in summer and in winter work in the timber lands, burn charcoal, etc., to increase their incomes. The average income from various sources is three or four hundred *yen* or sometimes even five or six hundred, while expert workers may make ₹1,500.

Agricultural Equipment

There is an agricultural experiment station on the Chinami river, five mi. s.w. of Toyohara and also a branch at Uentomari on the west coast. Another branch station is at Konuma, 5 miles north of Toyohara. This latter is devoted to experiments in stock-raising and dairy products, while the others deal with general subjects, seeds, propagation, distribution, etc. with lectures and information provided in addition to the experimental work. The government grants some assistance in the matter of salaries for the fifty or so veterinary surgeons distributed in these localities to study and teach sanitation and care of stock.

II.—COLONIZATION

It is now sixteen years since the Island came into our possession, and already the immigrants have reached almost 100,000 in number. Various industries are beginning to show signs of growth as may be seen by the statistics of 1918:

Agricultural products	...	₹ 2,080,000
Dairy „	...	200,000
Forestal „	...	900,000
Marine „	...	10,000,000
Mineral „	...	400,000
Industrial „	...	8,000,000
Total	... ...	21,580,000

At the first glance this may seem like remarkable progress in the opening up of a new land, but when we consider more carefully, we find less cause for optimism. Let us note that the area is 2,339 sq. *ri*, and the population about 900,000, or only 40 per sq. *ri*,—not a large number, is it? Yet remember this seacoast is considered one of the three great fishing grounds of the world, virgin forests thickly cover the land, the soil is fertile, and underground almost exhaustless stores of coal are concealed. Such a treasure-house we have on our northern frontier, lacking only the men to develop its resources! If nothing further is done, these treasures will lie unused and wasting. Now why is it that there is a lack of men to develop these rich resources? Is it not because the people of Japan do not understand how comparatively easy that development might be? They are hesitating on account of imaginary hardships, and while they wait, the chance slips by. The latitude is the same as that of well-populated countries in Europe and indeed is south of England. In the seas that wash its shores, there is a warm current, to temper the rigor of the climate. Toyohara, the seat of the prefectural government, has the temperature of Mukden, Manchuria. The climate being so moderate, why do our people hesitate to migrate thither? Compared with hot southern hands where epidemics are

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common and serious disease is always endemic, or even with the interior of Japan, it makes a most favorable showing as far as health is concerned. The bracing climate is good for both body and mind, and so far from being unhealthful, it is really a place noted for its salubrity. As we have said, the most lucrative work is carried on with ease in the winter season. That many supposed the land unsuited to colonization is because misinformation has been spread abroad. We would urge all those suffering from living conditions in Japan, where the population is increasing faster than the means of subsistence, to come to Karafuto and carve out a fortune there. The chance lies ready to your hand, not only to help yourself and your family, but to contribute materially to the expansion of our country's wealth and dominion. Was not the Island gained at the sacrifice of several hundred thousand lives, and several billion yen?

While of course immigrants are not limited in their choice of an occupation, yet it is true that the most pressing need is for those who are willing to exploit the natural resources. Farmers especially will be encouraged and assisted in some degree by government aid. For example, those who clear and cultivate wild land may after several years obtain a clear title to ten or fifteen acres of this land, or even thirty, without payment of aught but their labor.

Preparation for Immigrants

Selection of land.—Land suitable for farming and grazing is roughly estimated at 450,000 sq. *cho*. Since 1905 special measures have been taken to locate and survey this land, viz., the plains of the Rutaka, Suzuya, Naibuchi, and the coast from Uryu on the west shore of Aniwa bay, then around Nishinotoro peninsula *via* Maoka and Kushunnai along the coast to the boundary; also the coast lands from Jibesan, the east shore of Aniwa bay, to Naka-Shiretoko peninsula, and to Shikuka on the east coast of the same, and also the land on the upper reaches of the Rutaka river. The area suitable for farming land is 75,420 sq. *cho* and that suitable for grazing 59,739 sq. *cho*. Rectifying these figures the aggregate is about 134,378. After this estimation had been completed the next step was:

Surveying and Dividing into Holdings

After careful survey and systematic division of lands, with reservations for roads, claims of 100 × 150 *ken* (5 sq. *cho*) were staked out for immigrants. Forests form effective wind breaks and in existing or projected villages house lots were surveyed and apportioned, together with public pasture grounds.

This survey may require some alteration later. From 1906 to 1918, surveys have been made with the following results: Agricultural holdings 10,272= 45,130 sq. cho; grazing claims 1,052= 21,065 sq. cho; in addition land for various other purposes was measured off equal to 22,006 sq. *cho*; the total is 88,201 sq. *cho*.

The division into house lots is of two kinds, viz., lots in agricultural villages and lots in fishing villages; the former are part of the colonization survey, and the latter marked off for fishing villages along the coast and usually consist of 300-600 *tsubo* (6 sq. ft.) The agricultural village lots are generally 900 *tsubo* for one family. These house lots are already delimited in the principal towns, such as Toyohara, Otomari and eight others, and space is reserved for streets and roads by

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a symmetrical scheme. Another division is into smaller lots, as 78 or 81 or 152 *tsubo*. By 1918, 12,185 house lots had been surveyed, and 8,182 township lots the former 5,507,650 *tsubo*, and the latter 786,594 *tsubo*.

Preparation of Soil

The soil, although rich, is in some places swampy and hence needs draining. In some places 100 miles of drainage ditches have been dug. For this purpose the government has granted aid, as also for the improvement of public highways.

Disposition of Public Lands

The immigrant must obtain land for dwelling and business purposes first of all. These public lands are first loaned and then granted in full to settlers on the following plan: Where there is no obstacle to the survey and subdivision of the land, it is prepared for the colonist as we have just shown according to a careful plan. These are called fixed lands. The following kinds may be noted:

(1) Ranch holdings.
(2) Grazing lands.
(3) Town lots.
(4) Village lots.
(5) Public commons.
(6) Lots for public institutions.
(7) Lots for projected institutions.
(8) Lots for temples, shrines, churches.
(9) Lots for storing various materials.

After being no longer needed for this purpose these may be secured for farming or grazing purposes. Lands for public use may be secured free of rent. Where land is needed for a good purpose it may be either rented or purchased at a fair price.

Lands for Lease	Area
1. Town and village lots	1,500 tsubo
2. Lands for farming	90,000 „
3. „ „ grazing...	500,000 „
4. Miscellaneous purposes	10,000 „

Any one of these four classes of land may be secured by corporations in holdings four times as large, and if manufacturing important articles, there is no limit to the amount obtainable. As to term of lease, the lease without rent is limited to ten years, and that with rent, to fifteen years. This is the longest lease obtainable except in afforestation or peat land enterprises when an extension to twenty years may be secured. The regular homestead for farm lands is 10–15 acres for a term of five years, and the same term for town lots, but according to the purpose, one or more of the latter may be obtained.

Towns and Villages

As the population increases, more and more town and village lots have been provided and in 1915 the whole Island was divided into seventeen counties and these again subdivided into towns and villages. Hence jurisdiction is provided for counties, towns and villages—the latter numbering 4 and 59 respectively. The best developed towns are Toyohara, Otomari, and Maoka. Otomari and Maoka are important harbors in connection with the interior. Those which have recently made rapid progress are Tomarioro and Nodasamu. While Kushunnai, Shikuka, Motodomari, Sakayehama, Nagahama and Honto, though villages still, are growing. In Honto engineering work is going on. When completed the town will be a prosperous port. As has been said, the small farming villages are almost continuous along the river courses in the central plain. On the east and west coasts, south of the center, villages of 50–100 families are common, and near Maoka many fishing villages may be seen. North of the center on both coasts mainly fishing villages are found.

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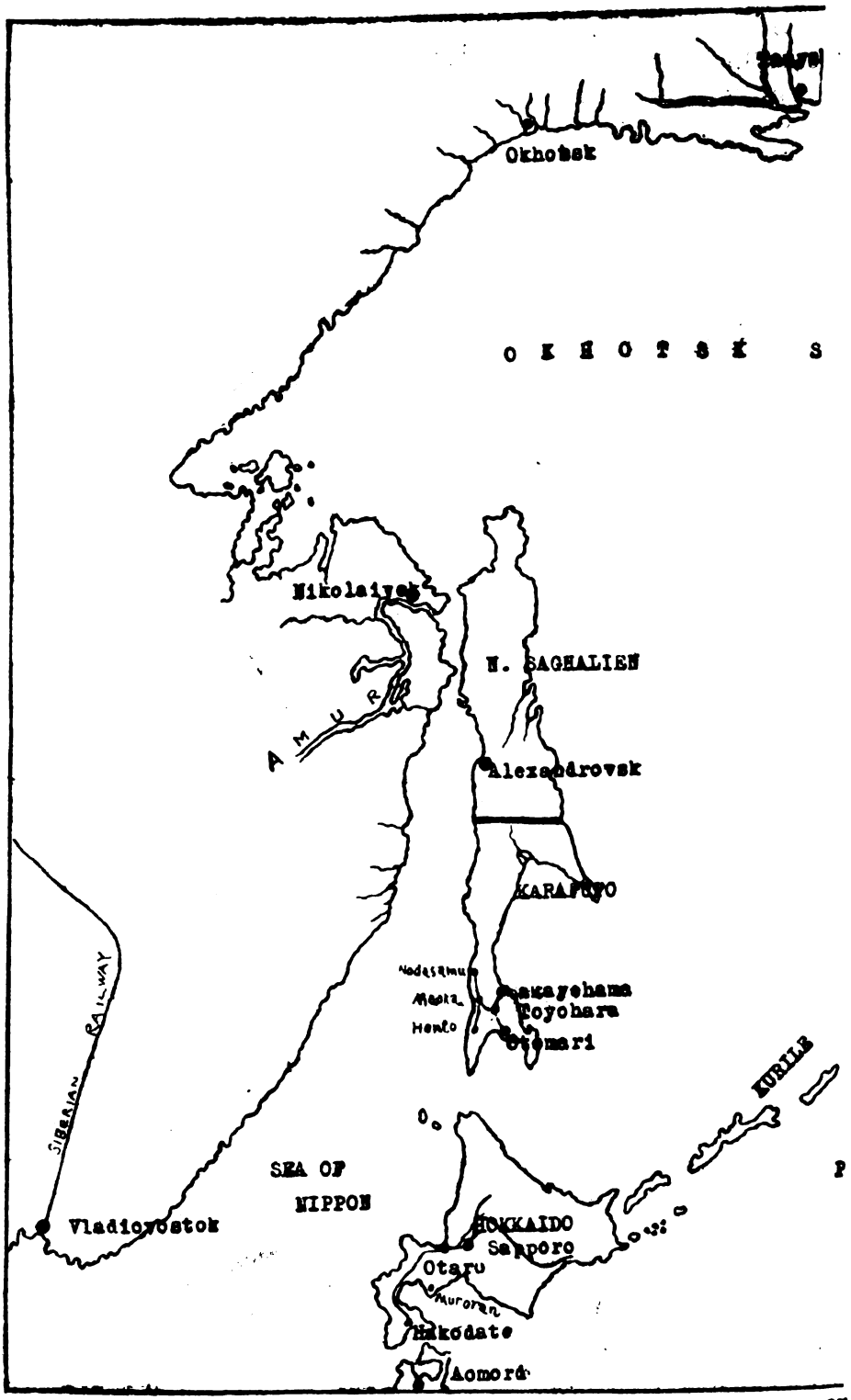

MAP OF

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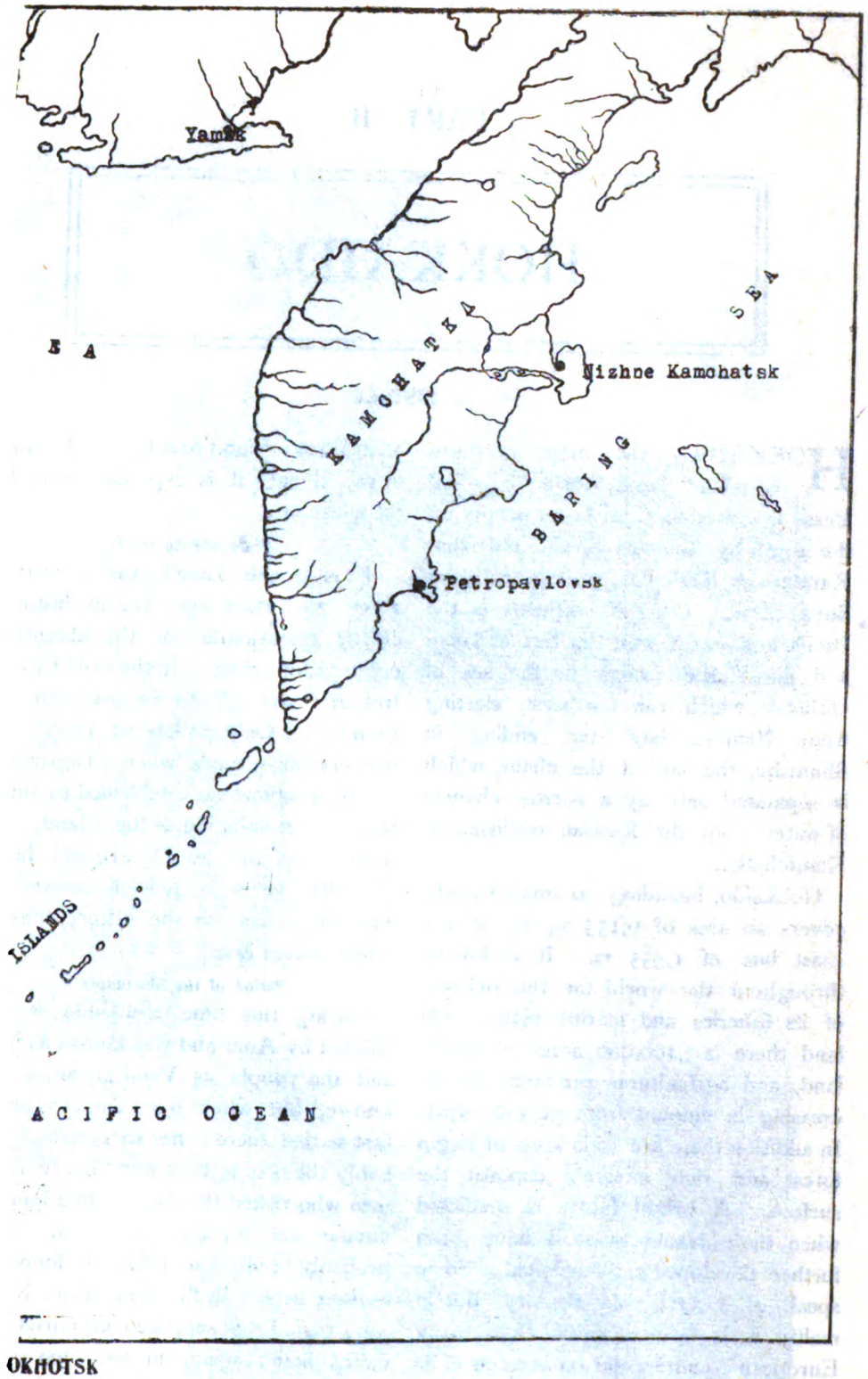

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PART II

HOKKAIDO

1.—HISTORY

HOKKAIDO, the most northern island of Japan, formerly called Yezo, is separated from Japan proper on the south by Tsugaru Strait, and from Karafuto or Saghalien, on the north, by Soya Strait. On the southeast is the Pacific and on the west the Sea of Japan and the Kurile Islands in the sea of Okhotsk which run northeast, starting from Nemuro bay and ending in Shumshu, the last of the chain, which is separated only by a narrow channel of water from the Russian peninsula of Kamtchatka.

Hokkaido, including 30 small islands, covers an area of 6,155 sq. *ri*, with a coast line of 1,355 *ri*. It is known throughout the world for the richness of its fisheries and marine plants. On land there is 5,100,000 acres of arable land, and agricultural products are increasing in amount from year to year. In addition there are wide areas of virgin forest and rich minerals beneath the surface. A bright future is predicted when these resources shall have been further developed and exploited. Some speak of it as a cold country, but in reality it is farther south than many European countries and on account of its abundance of food and the healthfulness of the climate it is especially suited to colonization.

Historical Summary

Though this Island was opened up about 700 years ago, yet its history is chiefly remarkable for the absence of noteworthy events. In the main this rich treasury was left to be overrun with brambles. Only as late as 1869 was a true beginning made when a Department of Colonization was established to undertake the exploitation of the Island. The work done by the Department in the last fifty years is indeed remarkable. The main facts in the history may be briefly stated here.

Period of the Shogunate

During this time Hokkaido was inhabited by Ainu and was known as Yezo and the people as Yemishi, as is well known, but when our Yamato people first settled there is not so certain. Probably the first settlers were hardy fishermen who risked the dangers of a long sea voyage and an unknown land. Next probably civil war refugees found an asylum here. In the time of the Kamakura period it is supposed criminals were exiled here; again, in the time of the

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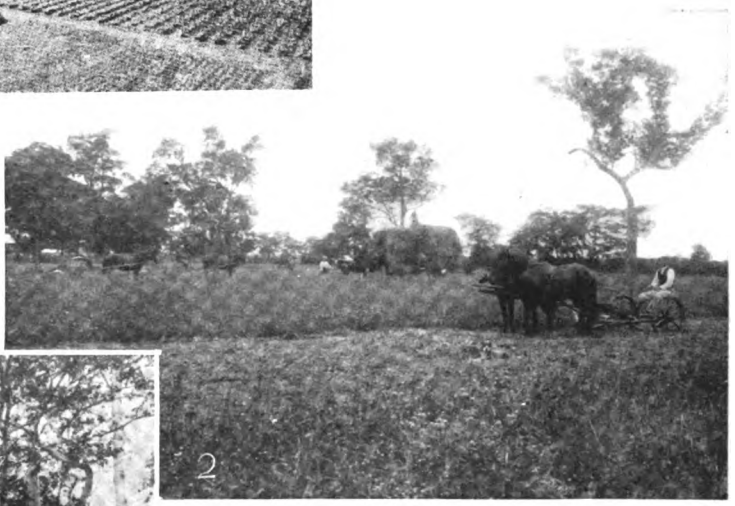
Goverment Experiment Farm



Grain Harvest, Agricultural College, Hokkaido

Virgin Forest of Kitmi,
North Hokkaido

Natural Forest Evergreens Trees, Kitami, Hokkaido

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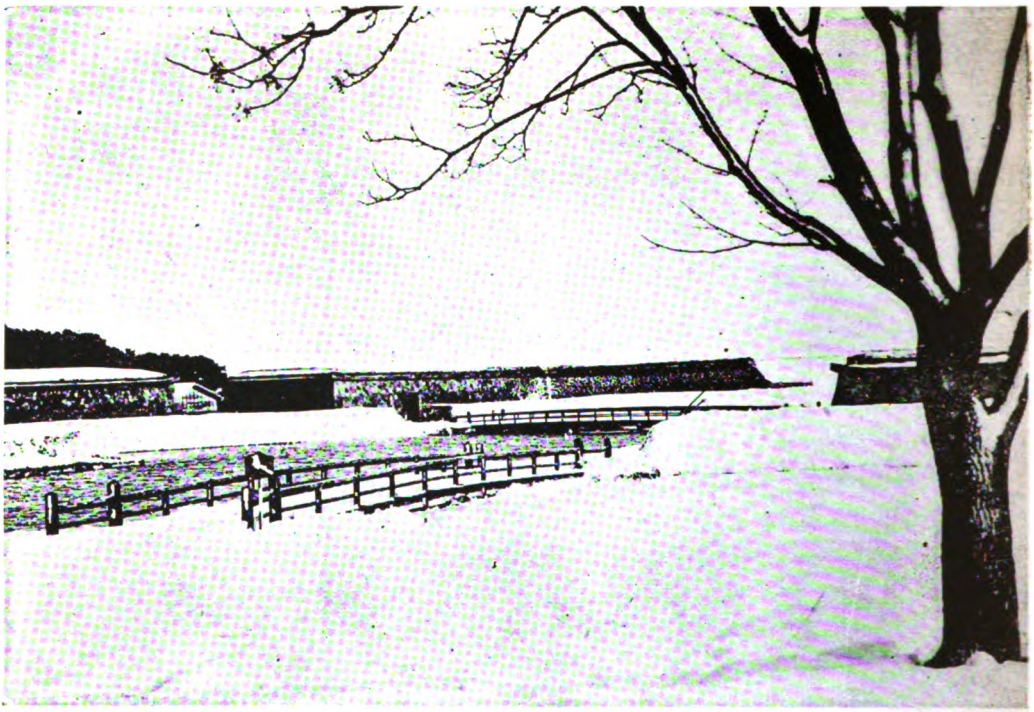

Snow Scene, Goryokaku, Hakodate

A Street Scene of Sapporo

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Ashikaga Shogunate there was considerable migration to Hokkaido.

In the Temmon era (1532—1554) Lord Matsumaye governed this territory and his name became familiar to many on account of his opening up the southern part of the Island. The remainder was quite neglected for a long time. In the Meiwa and An-yei eras (1771—1778) the Tokugawa Government kept a sharp watch on the Russians who regarded the Island as an important strategic point. In 1785 official commissioners were sent to inspect the land, and in 1799 the jurisdiction was transferred from Lord Matsumaye's hands to the Tokugawa government's, which made strenuous efforts to defend this frontier.

In 1807, their administrative functions were extended to West Yezo and later over the entire Island. The name of the superintendent at Hakodate was changed to Matsumaye. At this time the Russian invasion of Etoro, Saghalien and Toshijiri occurred. Subsequently, in 1821, the direct jurisdiction of the whole territory was transferred from the Shogunate to the Matsumaye clan once more.

In 1854, the Russians appeared at Saghalien with arms and warships, but Lord Matsumaye could not go out beyond Soya strait. In 1854, it was decided to make Hakodate an open port and this decision was embodied in the Shimoda treaty. In 1855 the Tokugawa government again assumed the power in Hokkaido with the exception of the Fukuyama section and appointed a superintendent of Hakodate, ordering Lord Matsumaye and the other chiefs of this section to protect this official. Later, when the civil war was over, and the power restored to the Emperor, this whole Island came under the administration of the Imperial Court. This was in July, 1869. Subsequently the name Yezo was changed to Hokkaido and the Island was divided into eleven provinces and eighty-six counties. The Governor's name was Count Michitomi Higashikuze. In Nov. 1870 Lieut.-Gov. Kiyotaka Kuroda (later Count) was sent abroad to study colonial administration in Europe and America. In 1871 Government Headquarters was established at Sapporo. In 1873, after Mr. Kuroda's return, an American named Kebron was engaged to assist in deciding policies of exploitation and administration. The Colonization Department was given entire control of the Island. During ten years (from 1872-82) ten million *yen*, besides taxes and other revenue, were appropriated for development of this region, but so many projects required financing that there was an annual deficit until convertible notes of 2½ million *yen* were issued and a loan of 1½ million *yen* from the Department of Finance was effected. Transportation facilities on land and sea were improved and harbors constructed on American models. Although much money was expended the practical results did not equal expectations, so a policy of retrenchment was adopted and an effort made to develop industries and agriculture, to foster natural resources, and exploit the fisheries.

In 1878 a mining project was attempted with a loan of ¥500,000 and a coal mine opened at Horonai. In 1880, a railway was constructed, with Otaru as the starting point. In addition attention was paid to education, colonial defence, trade expansion, etc.

In 1882, the Colonization Department was abolished and three prefectural governments were established at Sapporo, Hakodate, and Nemuro, to take over

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general administration. As to colonization and forestry, these were placed under the Departments of Agriculture and Commerce, and Public Works of the Imperial government. In 1883, a Bureau of Hokkaido Affairs was established to oversee and unify colonial work. Nevertheless the methods of the former Colonization Department still ruled in the main, and between the three prefectural governments and one department bureau, unification was difficult of attainment, and delays were frequent.

Hokkaido Government Established

In 1886, the former arrangement was abolished and a general administrative government established to take over the affairs of the whole Island, thus simplifying and facilitating operations. The official guardianship over colonists changed to a system of indirect assistance. The new government also took over road-building, laying out of town sites, surveying, investigation of aquatic products and mineral resources, location of government-aided factories, subsidies for new projects, clearing of new lands, railroad construction, etc.

In 1897 further changes were made, the district office being replaced by the branch office of the Hokkaido Government. In 1901, the first representative was sent to the Imperial Diet from Hokkaido, and at the same time a ten-year project for the development of the Island, was proposed but alas! just then the Russo-Japan war occurred, and there was not a sufficient fund to carry out the scheme.

In 1910 an enlarged project was conceived to consume fifteen years, and an appropriation from the national treasury of 70 million *yen* was secured. The Island government also increased this amount by local subscriptions. The population has now reached over two million souls and the total annual production is over 310 million *yen* but the complete development is yet far in the future and it is impossible to predict how great that will be.

2.—FORESTRY

Before the Shogunate government took control of administrative affairs, there was almost no limit to the cutting of timber. Hiyama only was excepted, as the destruction of forests went on apace. Later the Shogunate government recommended afforestation, but the people, not yet awakened to its importance, were not enthusiastic over the idea. When later the Colonization Department was in charge, it issued strict regulations, and endeavored to enforce them rigorously.

In 1882 the Department of Agriculture and Commerce took over the forest lands, and later the three prefectural governments controlled them, the latter making use of the regulations issued by the Colonization Department. In February 1886, the Hokkaido prefectural government marked off the boundaries for government forests, preserved forests, etc.; in 1907, an outline of a new plan was made, and in June 1908 this plan was operated. Superintendents were appointed, seedling farms wese started, and experiment stations established. Every-

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thing was done to encourage the improvement of forest lands, after thorough investigation had been made as to best methods of cultivation and preservation.

These virgin forests were a wonderful sight in the early days. Untouched by the hand of man, the trees had grown in natural luxuriance and beauty. Even after considerable reduction has been made by cutting, they still cover over 5,600,000 *cho*.

The forest lands in the botanical belt extend from the temperate to the frigid zone. Running east and west these forest lands cover great parts of Oshima, Shiribeshi, Iburi, Hidaka, and Ishikari or the southwestern part in the temperate zone while the other forest lands are in the frigid zone. Even in the temperate zone, however, only those one or two thousand feet above the sea are in the temperate zone, while those higher than this are in the frigid zone.

As to varieties, there are over fifty, including evergreen as well as deciduous trees, and these are mainly the same as those growing in the northeastern parts of Japan proper. Separated as these regions are by only a narrow strait, communication is not a difficult matter. However, of the trees indigenous to Hokkaido we may mention the "Todomatsu" (Abies Mariesii) and "Akayezomatsu" (Picea ajanensis). The forests are of three kinds, viz., (1) evergreen, (2) deciduous and (3) mixed. The evergreen forests are mainly todomatsu and yezomatsu pines, growing thinly in the southwest, and gradually increasing toward the northeast. The deciduous trees are in the southwest and are widely distributed elsewhere also. These comprise half of the entire area of forest lands but are seldom found unmixed. But evergreen forests are often seen in which various kinds grow separately, each kind without intermixture. Some varieties, however, are found mixed, as black alder *kashiwa* (Quercus dentata), the birch, aspen, *doro* (Populus Suaveolens), *nara* (Quercus glandulifera) and beech, one of the poplar family. Mixed forests of evergreen and deciduous trees are scattered in various sections but are found most commonly north of the center.

Forestal Products

These are lumber, fuel, railway ties, paper pulp, etc. The increase has been greater than that of many other land products. The value of forestal products during the year 1916 was as follows:

Variety	Volume	Value
Evergreen...	6,457,553 *koku*	¥1,938,011
Deciduous...	8,899,229 „	1,839,798
Total...	15,356,782 „	3,777,809

Lumber and fuel are separated as follows:

	Volume	Value
Lumber	9,486,491 *koku*	¥3,180,326
Fuel	917,235 „	597,480
Total...	15,356,796 „	3,777,806

Principal forestal products during the year 1918:

Products	Volume	Value
Lumber and logs ...	7,242,905 *koku*	¥20,103,315
Railway ties	1,305,206 No.	961,723
Wood for use in arts	273,248 *koku*	619,264
Paper pulp	1,119,441 „	3,498,103
Wood and charcoal...	——	14,866,743
Earth and stone ...	——	1,208,035
Miscellaneous	——	2,463,507
Total...		43,807,690

The principal articles manufactured from wood are machine-manufactured paper, phosphorus, axles, tannin, acetic acid, lime, etc. The paper is manufactured from the todomatsu and yezomatsu (silver fir), whose consumption was greatly increased by the effect of the recent great war. Phosphorus and axles are manufactured from the

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aspen, doronoki, "shinanoki" (Tilia cordala) and todomatsu mainly in the localities of Kitami and Tokachi. Tannin is largely manufactured from trees in the locality of Tokachi.

The Output of Forestal Products

As to amount of production the principal output is lumber for architectural purposes, yezomatsu and todomatsu being first; and beadtrees, shinanoki "bakkoyanagi," etc. as materials for footware; and birch, nara, aspen, ash, magnolia hypolenca, walnut, etc. as material for special industrial arts come next in order. At the outset, the exportation of these products was limited to China, but later forestal products were exported to Europe, America, Australia, and elsewhere and as a result of the recent war the way was opened to export lumber to East India and Australia. The output from Hokkaido for the year 1916 was as follows:

Lumber exported abroad	¥4,153,854
Lumber shipped to the interior	8,065,447

If we analyze the output to the interior, we find it as follows:

Todomatsu (Abies Mariesii) ...	¥1,770,000	being the
Aspen trees	1,220,000	first, and
Sen-no-ki (bastard cedar) ...	1,020,000	
Yezomatsu (Picea ajanensis) ...	240,000	
Nara (Quercus Glandulifera)...	500,000	

Besides these, there are kashiwa (Quercus Dentata), ash trees, katsura (cercidiphyllum japonicum), etc.

The principal places of shipping are first Kobe ¥1,840,000; Hyogo ¥1,730,000, and Tokyo ¥1,050,000; Osaka ¥860,00; Nagoya ¥810,000, Yokohama ¥570,000 and besides these, Shimizu and Jinsen.

If we inspect the exportation during the year 1916, as to variety of trees, we find nara (Quercus glandulifera), comes first, ¥1760,000, silver fir ¥600,000, sen-no-ki ¥570,000, Todomatsu ¥480,000, and Yachidamo (ash) ¥370,000. Besides these, there are katsura (bay), magnolia hypolenca, beech, white birch, etc.

The places of export are as follows:

Shanghai, China, first	¥520,000;		
Dalney ...	¥560,000;	Taku ...	550,000;
London ...	360,000;	Hankow...	239,000;
Sydney, Australia	¥150,000;		
Portland, North America ...	140,000.		

The total amount exported during the year 1916 was ¥4,153,854.

Forestal Domains

The wooded lands of the island are mainly wild forests in natural state. All the luxuriant forests of the entire Island were committed to the aborigines (Ainu) for their unlimited use formerly. In the period of the Matsumae administration, regulations concerning forestry were first enacted and have been continued by the various governments until the present time. Though wooded lands were at first considered an obstacle to the exploitation of farm lands yet in the progress of colonization and the clearing of lands, the sphere of wooded lands was reduced in successive years; but now the direct and indirect benefits of wooded lands are recognized. The forestal administration in the Island in now fairly well established. The forest lands in the Island at present are as follows:

Crown forests...	900,000	sq. cho.
National forests	3,000,000	„ „
Government and public forests ...	500,000	„ „
Private forests	400,000	„ „

Of the three classes, the deciduous forests lead, evergreen and deciduous mixed come next and the pure evergreen forests last.

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3.—GEOGRAPHY

Hokkaido is situated between 139°20 and 156°35 E. Long. and between 41°21 and 50°57 N. Lat. Its area is 6,155 sq. *ri*—main island 5,092 sq. *ri* and smaller islands 1,063 sq. *ri*.

The principal mountain ranges are (1) Kurile Isle volcanic belt; (2) Northeastern range; (3) Hidaka range. In addition smaller groups and chains are (4) the Mashike group; (5) the Shiribeshi group; (6) the Oshima range; and (7) the Sengen range.

(1) The Kurile Isle volcanic belt starts from Kamtchatka, runs down through the Kuriles to Pt. Shiretoko, and from thence through the northern part of Nemuro, Hokkaido, extending toward Mt. Togachi. From the Northeast mountain chains run north and south forming the boundary lines of the three provinces Nemuro, Kushiro and Togachi, and of two other provinces, Kitami and Ishikari. In these ranges, there are many high peaks, viz., Raushi, Sari, Atosanuburi, Oakan, Meakan, Ishikari, Stapukaushuke, and Obutateshuke. The system also includes the Shiribeshi group and the Oshima range which are all of volcanic origin. Hence the geological formation of Hokkaido is volcanic rock with hot springs and sulphur beds in abundance.

(2) The northeastern mountain range.—This range runs along the boundary of Kitami and Teshio from Soya cape in the north toward the southeast and culminates in Mt. Ishikari.

(3) Hidaka mountain range.—This range starts from Erimozaki, the southern part, and runs toward Mt. Togachi where it is noted for the grandeur of its scenery; thence it extends northward, gradually runs down into the plains of Hidaka and Ishikari and suddenly slopes toward Togachi plain in the East. The spot where these ranges meet is the highest point in the Island—Asahi peak, 7,108 feet above sea level.

(4) The Mashike group.—This group is in the northwest of Ishikari plain and the foothills run toward the southwest.

(5) The Shiribeshi group.—These mountains are volcanic and consist of Mts. Tarumaye, Uzu, Matoukarinuburi, etc. The last is a high peak over 6,100 feet above sea level, and its beautiful cone shape has made it well known as "Yezo Fuji." Southwest of the Shiribeshi mountains there are: (6) The Oshima range closely connected with the former and (7) the Sengen range. The high peaks belonging to the former are volcanoes, viz., Komagadake (peak), Eyama, etc. The greater part of the mountainous area in this Island is covered with luxuriant forests untouched by axe or saw through a thousand generations. Though it resembles the northern part of the Interior, yet we find some exceptions, as mixed forests of todomatsu (Abies sachalinensis) and yezomatsu (silver fir) growing above the deciduous trees such as it is impossible to discover in the northeastern provinces of Japan proper. On the high plateaus (1,000–2,000 ft.) are pure frigid-zone forests, and from three to four thousand feet high we find creeping pine trees. Except these, there are very few varieties of deciduous trees in the Island. In the northeastern provinces of Japan proper, there are 140 species but we could find only one-half this number in Hokkaido. It is said that this is partly because of the cold climate

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and partly because of the barrier formed by Tsugaru strait.

The distribution of animals also differs from that of Japan proper, Tsugaru strait being the boundary. Of those living in Hokkaido only, the grizzly bear is the most remarkable. The number of cases of injury to man and beast from wild animals has greatly diminished of late years owing to the progress made in clearing the wilderness. Among these wild animals are Yezo sables (martens) wolves and deer, and Yezo weasels, Torafunezumi (Tramias striatus) among rodents; but monkeys, wild dogs, antelopes and wild hogs have never been seen in the Island. In the north Shiribeshi province and Soya strait form a distinct boundary line and this also affects the distribution of animal life.

The principal rivers and streams are the Ishikari, Teshio, and Togachi rivers which rise in the mountainous regions of the central part of the Island. The Ishikari river flows down from Mt. Ishikari and then unites with the two rivers Chubetsu and Miei, passes down along the cliff of the Hatsukotan, runs out to Ishikari plain, again unites with several rivers, the Uryu, Sorachiru, Tokutomi, Horonai, Ebetsu, Toyohira, and Tobetsu, then meanders toward the west and flows into the sea beyond Ishikari town. Its length is 92 *ri*—the longest in the Island. The area of its water courses is in reality 950 sq. *ri*. Of streams, those extending over 25 miles number 35. The lower parts of the river courses run slowly making them suitable for navigation. The fertile plains along these water courses are very extensive.

Ishikari plain situated at about the center of this river course comes next in extent to the Kwanto of Japan proper. The land is fitted for raising rice, wheat, beans, hemp, etc. The plain located on the upper part of the water course is the Kamikawa plain where the largest quantity and the best rice in the Island is raised. Teshio river rises in Mt. Teshio and runs down in a northwesterly direction to the sea. At its mouth stands Teshio city. The land along its upper course is rich and suited for cultivation, but the land along its lower course is low and requires considerable labor to fit it for use; the length of this river is over 77 *ri*. Togachi river rises in Mt. Togachi; its length is 49 *ri* and the area covered by its water course is about 593 sq. *ri*, which makes Togachi plain a rival of Ishikari. The product of Togachi, the soy bean, is widely noted. Though the soil cannot compete in richness with that of Ishikari plain, yet it is suitable for livestock raising. Besides these rivers, the Kushiro, Tokoro, Shiribetsu, Yubetsu, etc., run in various directions, the localities along their water courses form fertile land, and in their waters salmon and trout are found in abundance. They are also convenient waterways for floating logs and lumber to the sections below.

Lakes and Marshes

These are mostly either of volcanic origin or on the seacoasts, such as lakes Kutcharo, Mashu, and Akan in the volcanic range of the Kurile Island belt, lakes Shikotsu and Toya in the Shiribeshi mountains; and Onuma and Sennanuma of the Oshima mountains, all of volcanic origin; while Lakes Sarukan, Suntori, and Abashiri of Kitami province are of the seashore class, also Lakes Furen and Hikoneto of Nemuro province and Akkeshi of Ku-

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shiro and the lakes and marshes on the Togachi seacoast.

Harbors

The coast line of Hokkaido extends over 1,350 *ri*, and if we except the adjacent islands, the coast line is only 664 *ri*. Since there are very few indentations or curved lines, the coast is sadly deficient in good harbors. Moreover, the coast is exposed to hard winds and high waves, and there is danger especially from floating ice and thick fogs. Difficulties in navigation and anchoring are not small. The principal harbors are three, Hakodate, Muroran, and Kushiro on the Pacific coast, and two, Otaru and Rumoye, on the west coast facing the sea of Japan. On the northeast, there are only three ports—Wakanai, Abashiri and Nemuro—in the several hundred *ri* of that coast, but there is danger of floating ice in the winter season, and in the summer there is also danger of thick fog.

Geological Formation

The soil of the Island consists of archaic igneous rock, volcanic rock, palaeozoic rock, mesozoic, tertiary and quaternary strata. The most extensive areas are of the tertiary formation and volcanic rock, and the quaternary comes next.

Archaic igneous rock is mainly granite rock which forms the central axis of the Hidaka mountain range, while a number of small rugged peaks in the southeast and southwest are composed of said rock.

Volcanic rocks mainly consist of pyroxene and andesite, which form the marrow of the Kurile Isle mountain belt and the Oshima range. This is used as material for building and for the industrial arts to a small extent; there are also stores of sulphur and various other minerals in the mountains.

As to the tertiary stratum, it forms a large part of the northwestern and one-half of the east coast—the northeastern part—while the southern parts of the coast except the Hidaka mountain range and a part of the Kurile mountain range, are all composed of the tertiary formation; also in the southwest of the eastern section, except Mt. Hidaka all belong to the tertiary.

In the west, it covers an extensive area where a large quantity of the useful minerals, as coal and petroleum, and lignite or brown coal, are produced.

The quaternary stratum is found in the plains, especially along the river courses. Its most extensive area is in the central depressed parts of the Island.

Sea Currents

In the seas washing the shores of Hokkaido there are both cold and warm currents. The former comes from the northeast and divides into two, one of which unites with the warm current flowing eastward and the other changes into an undercurrent and becomes the Karafuto current flowing southward. The latter after passing Tsushima strait turns toward the west, passes Soya strait, and thence washes the coast of Kitami province. The current running northward on the west side of the Kuriles divides also, —one stream enters Tsugaru strait and again runs eastward and unites with the cold current.

Meteorological Description

The west coast is comparatively warm, being modified by the Tsushima warm current, but the east coast, washed by the cold current from the north, has a comparatively low temperature. The coastal regions show slight changes between the seasons and between day and night, but in the Interior of the Island there are great variations of temperature between

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summer and winter, especially such sections as Kamikawa. We show below charts giving maximum and minimum temperature in different localities, and also average temperature in January and August for successive years, according to different observatories.

TEMPERATURE RECORD—CENTIGRADE

Observatory	January Max.	January Min.	August Max.	August Min.
Hakodate	0.5	— 7.6	24.9	17.2
Suttsu	— 0.9	— 5.9	24 0	18.0
Sapporo	— 2.0	—12.0	25.7	15.7
Kamikawa	— 4.5	—16.9	26.1	14.9
Togachi	— 2.6	—20.1	24.9	14.9
Erimo (Hidaka) ...	— 0.6	— 5.4	20.1	15.9
Kushiro	— 1.8	—13.2	20.1	13.9
Nemuro	— 2.3	— 9.0	20.4	13.7
Abashiri	— 3.1	—11.1	22.6	15.3
Sana	— 2.7	— 9.4	19.3	10.3

(—) denotes below the freezing point.

As to the prevailing winds, in the winter this is the northwest, and in the summer the southeast. The velocity is low in the interior and high on the coast. The winds are usually high in winter and spring and soft in the summer and autumn. As a general rule the annual average humidity runs from 76° to 86°. Everywhere humidity is low in spring and autumn and high in summer, especially on the east coast, where heavy fogs often roll in from the sea. The annual total rainfall varies, from the 738 millimeters of the Abashiri observatory to the 1,158 mm. of Hakodate. In September the precipitation is unusually great throughout the Island. The snowfall is abundant on the west coast, in Kufuchan, etc., where it lies 7 or 8 ft. deep. In various directions from the Mashike mountains it is often 5 ft. deep, while on the east coast the fall is comparatively light. Frost is common in the interior from the first of September or October, but on the sea coast it does not come until later, about the latter part of November. Frost goes away the latter part of April or May, but sometimes lasts into June.

Population

The beginning of immigration was over 700 years ago, but as the early explorers were often attacked by savages, settlement was very slow. Only one corner was habitable for some time. When Lord Matsumaye took charge his influence was felt everywhere, as he established barriers, examined all who passed, Japanese as well as the aborigines, and divided up the land into sections. In the Kansei era (1789—1800) and after, the Shogunate Government decided to adopt a new policy. They treated the aborigines sympathetically and encouraged Japanese immigration to Hokkaido; also tried to facilitate means of transportation, and to develop the resources of the Island. But the time not being yet ripe for such an enlightened policy, no great success was attained. Since the Department of Colonization took charge, there has been a remarkable increase in the number of settlers coming to Hokkaido as shown in the table below:

Date	Japanese	Aborigines	Total
1869	58,467	?	?
1887	328,686	16,962	345,648
1907	1,390,079	17,715	1,407,794
1918	2,167,356	17,619	2,184,975

Thus the population has increased to over two millions, perhaps in reality three millions, and is 87 times that of 1869. The cause for this increase is chiefly excess of births over deaths and influx of settlers year after year.

The foundation for the expansion of industrial enterprises has gradually been strengthened and as there is ample room for the increase of population, the prospect is bright.

Through inadequate living conditions

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Ainu Huts, Hokkaido

Ainu Chiefs, Hokkaido

Ainu Bear Festival, Hokkoido

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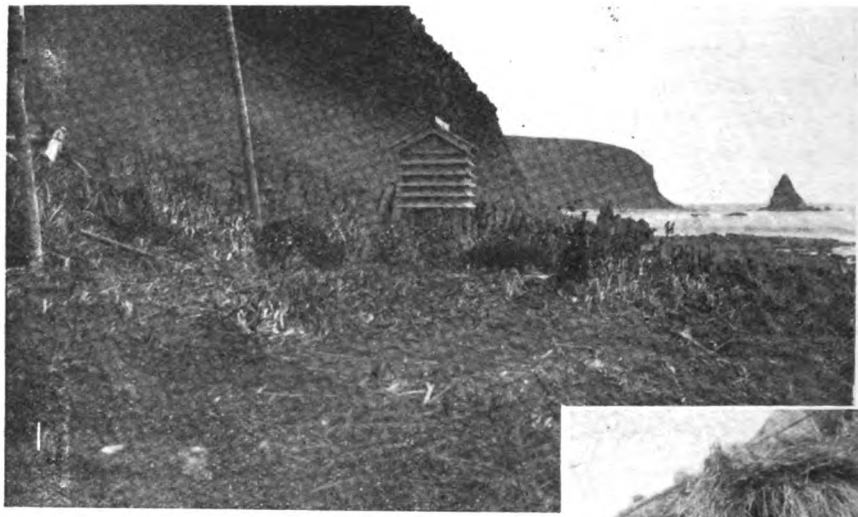

1. Sable-Fox Farm in Kurile Islands
2 Shikotan Women, Kurile Islands
3. Dugouts in Horomushiro, Kurile Islands

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and lack of sanitary care, the Ainu natives tended to decrease but in recent years their condition is much improved and there is a tendency to increase, as births are 3.1 to every 100 population and deaths only 3 to every 100.

CENSUS FOR SUCCESSIVE YEARS OF AINU ABORIGINES (Hokkaido Ainu and Kurile Ainu)

Date	Households	Population		
1914	4,505	18,347	Male	8,890
			Female	9,457
1915	4,465	18,670	Male	9,044
			Female	9,626
1916	4,427	18,674	Male	9,019
			Female	9,655
1917	4,459	18,480	Male	8,923
			Female	9,557
1918	4,686	17,619	Male	8,500
			Female	9,119

Landholdings

The area of the whole Island is 6,155 sq. *ri*, i.e. 9,570,000 sq. *cho*. Even if the land included in roads, rivers, marshes, ditches, etc. be excepted, the remainder is over 8,600,000 sq. *cho*, and again may be divided into Imperial estates, Government land, national forest land, national uncultivated land, property owned by public organizations and private land. As to the Imperial estates, in December, 1883 the Niikappu pasture was placed under the supervision of the Imperial Estate Bureau. This was the first, but since then, a number of forest lands have been included in the Imperial estates which, in 1916, became approximately 684,883 sq. *cho*; the government land for the use of the cabinet and various departments covers 224,367 sq. *cho*. The property owned by public organizations covers 567,724 sq. *cho*; and the private land covers over 1,490,000 sq. *cho*. By the exploitation of the national uncultivated land, cultivated land is increasing year by year, and now covers over 730,000 sq. *cho*, pasture lands over 310,000 sq. *cho*, and forestal lands and plains over 420,000 sq. *cho*. House lots cover over 6,300 sq. *cho*. and miscellaneous 9,600 sq. *cho* or more.

As to leasing rights and disposal of the national uncultivated land, transactions year by year are successfully carried out and since this is thus becoming private land the increase in such will be still more notable in the future.

4.—TRANSPORTATION AND COMMUNICATION

Even when the Shogunate government was in control subsidized boats were navigating the Hokkaido coast on a regular schedule of trips, while considerable effort was made to construct roads and improve the facilities for transportation and communication. Again, at a later period, the Department of Colonization provided its own boats, or chartered foreign vessels, provided lights and light-houses at dangerous points on the coast, or floated light-bearing boats along the shore, and thus facilitated traffic on both land and sea. They assisted financially also by granting subsidies for the construction of roads, ferries, post and telegraph stations, etc.

The Hokkaido prefectural government did its best to complete these beginnings. In 1896 regulations concerning railways

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were promulgated, and in 1901 the "ten-year project," as it was called, was launched. In 1910, this was enlarged and known as "the fifteen-year project" to promote the welfare of Hokkaido by providing roads, railways, posts, telegraphs, and the like. Marine routes have been improved and harbors constructed in consequence, and communication organs have been adjusted between land and sea. At the present writing railways, official and private, have been extended for one thousand miles, while the public highways reach over 5,900 miles and the main routes are extended to the Kurile Islands.

Railways

In 1888 the Department of Colonization constructed railways between Temiya, Sapporo, and Horonai first, and later worked at other lines, until there are now, besides the main line from Hakodate to Kushiro *via* Otaru, Sapporo, Asahigawa and Obihiro, branch lines extending to Iwanai, Muroran, Rumoye, Abashiri, and Atsukeshi. They also connect with the coal mines at Yubari, Manji, Ikushunbetsu, Utashinai, besides Kamiiso, Shimoyubetsu and Nakatonbetsu. In addition there are various projected lines and some actually under construction, as to Soya, Teshio, Nemuro, Nayoro, Higashikutchan, etc.

Light Railways

A light railway was first constructed in 1913 between Tomakomai and Saruta extending over 15 miles and now there are six supplementary tracks, and as localities develop, these will be increased.

Public Highways

Though some effort was made to improve these by the different administrative bodies, from early days, yet up to 1885 they extended only 294 *ri*. In 1886 a marked change took place, and by the end of 1916 the roads had been extended to 5,943 *ri*. True these lead to all the principal places in the Island, yet in the wide plain near the center, many necessary roads are still to be found only on paper. The main thorofares are from Hakodate to Sapporo and from Muroran to Asahigawa. There are over 36 lines of prefectural road extending over a thousand *ri*. National and prefectural roads together make about 1,200 *ri*.

Postal Stations

Accompanying highway construction post stations are built in remote parts, with horses and carts provided for travelers and their luggage, as where there are extensive tracts of land without rail communication, such stations are indispensable. Even under the Shogunate, some such provision was made, while since the Department of Colonization took control the old routes have been supplemented by main and branch stations, posts, inns, etc. Though changes in name occur, the work goes on and is constantly being brought up to date. There are at present 254 post stations.

Ferry Boats

The number maintained at present is 178 national and 39 local and 178 privately supported.

Rivers and Streams

There are rivers in Hokkaido with deep waters and slow currents which are important channels of communication but these have been sadly neglected. In 1889 investigations were made and improvements included in "the ten-year project." Upon the extension of this plan to fifteen years a still greater advance was suggested and later carried

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out, especially in the appointment of supervisors for the work of river improvement. Strict regulations have been enacted, the rivers have been dredged and a plan has been undertaken to preserve the banks from destruction. This is being tried, especially on the Ishikari river, in order to avoid damage along the great extent of its course.

Hydroelectricity and its Use

The first undertaking of hydroelectric work in this Island was in 1905. Afterward the Department of Communication temporarily established a Bureau to investigate hydraulic power for the generation of electricity, and investigated the water power in various rivers. Since then, the number of such enterprises has rapidly increased. In not only Sapporo, Hakodate, Otaru, and Asahigawa, but also in the other principal cities and towns, electric lights mainly depend on hydroelectricity, as also the motor power used in paper mills, planing mills, and other such factories. The applications for this form of water power are more than 30 with a horse power of 500,000, and a capital estimated at over 15 million and there are still more applications now being filed.

Harbors

With the increase of productive power, all sorts of boats are arriving and departing in great numbers and thus the construction of harbors is the burning need of the hour. Hence the authorities made early investigations of almost all the important harbors in the Island and carefully considered the main issues as to the exploitation of the Island. The very important harbors are at six ports, viz., Hakodate, Muroran, Kushiro, Abashiri, Rumoe and Otaru. Those now under construction are five, viz., Otaru, Kushiro, Rumoe, Hakodate and Muroran, and two others are to follow.

Navigation

In tracing up the early history, we find there were old Japanese-style junks navigating along this coast in olden times; and since the Colonization Department initiated the navigation of official ships, steamships and European-style vessels have gradually increased in number. There is no season when boats are not running and if we enumerate the leading lines subsidized by the Government these are as follows:

The Hokkaido boats come first and next those on the free sea routes calling at the various ports on the Hokkaido coast. There are boats making round trips from Japan proper to the different ports in Hokkaido, viz., the Eastern line and the Western line. The Japan proper connecting line, and the Saghalien line and also those despatching from the Island to foreign marine routes are along the coast of the sea of Japan and North and South China routes; and there are not a small number of these ships going *via* Yokohama and Kobe to various foreign countries.

The marine route along the coast of the Island was first subsidized in 1879 by the Mitsubishi Steamship Corporation as the route between Hakodate and Aomori, and after various adjustments we now have the existing routes.

Communication

The postal system was established in 1871 and the telegraph was first established in 1875 and year by year the work is being extended and now there is no place where postal and telegraphic communication is unattainable; and as to the telephone system, ex-

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change offices were established in 1900 at Hakodate, Otaru and Sapporo and extended gradually to various other places and now the principal cities and towns are enjoying the facilities of the same. In 1918 the figures gave 483 post-offices and 9,653 telephone subscribers. There are numerous post stations as well as post exchanges and places where mail is delivered.

5.—MINING

The beginnings of this industry were in the alluvial mining of the Matsumae section. When the Department of Colonization controlled affairs, they employed an American scientific expert to investigate the geological formation and mineral resources of the Island and then began the improvement of mines, starting with the coal mine at Horonai. This action stimulated the fever for private enterprises and soon the Government plants were taken over by the Hokkaido Coal Mine and Railway Company, which began to grow in power and influence. The minerals were fairly abundant and good progress was being made but on account of the recent war this progress has been much accelerated, as the demand for exports became greater.

In 1910, the Geological Research Station attached to the Department of Agriculture and Commerce undertook to investigate the mineral resources, which action tended to the improvement of the industry still further. At the end of 1918 the number of improved mines in operation was 328 with an area of 221,231,173 *tsubo* (6 feet sq.) and the number of experimental mine lots was 2,655. Of these alluvial mines there are 260 with an area of 8,684,219 *tsubo* and the extension of rivers is 217 *ri*, 8 *cho*, 7 *ken*; again, the number of iron sand mining lots is 34, with an area of 2,919,436 *tsubo*, while the extent of rivers involved is 20 *ri*, 35 *cho*, 24 *ken*.

The amount of the mineral products for successive years is as follows:

Date	Amount
1914	¥11,633,546
1915...	10,572,960
1916	17,668,612
1917...	26,671,407
1918...	53,646,871

The principal minerals and amount of output for the year 1918 are shown below.

Minerals	Amount	Value
Coal	4,135,560*	¥47,486,564
Sulphur	55,123*	1,554,000
Copper	2,152,030†	6,779
Gold	18,942‡	88,876
Silver...	616,468‡	135,679
Petroleum	7,572§	128,909
Manganese	2,218,969‖	286,581
Iron	——	1,230,578

* Ton. † Kin. ‡ Momme. § Koku. ‖ Kan.

The number of coal mines in operation in 1918 numbered 202 with an area of 173,106,875 *tsubo*. Of these, Yubari and Sorachi coal is now shipped to various cities of the interior and also exported to Hongkong, the Straits Settlements, Hawaii, Russian Asia, etc. After the great war broke out, the coal of Hokkaido was exported to Hawaii and the South Sea Islands which were formerly within the sphere of Australian influence.

The number of sulphur mines is 44 with an area of 14,047,102 *tsubo*, Oshima and Shiribeshi being the principal places of production of the same. Owing to the war, the supply of sulphur from Italy was cut off and so the output of the

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Island was exported to America, Canada and Australia which had formerly used Italian sulphur.

The copper is mainly produced in Shiribeshi and Iburi and most of the output is shipped to Osaka and Tokyo; gold and silver are mainly produced in these two provinces and the output shipped to the interior. Petroleum is mainly produced in Iburi, Hidaka, Oshima, and Kitami provinces. The output is not large at present but oil has a very hopeful future. Manganese is produced in Shiribeshi province and Alluvial and sand platinum are mined in Kitami, Ishikari, Iburi, Togachi, and elsewhere, while iron sand is found everywhere, the western coast of Funka Bay, Iburi, being the principal place.

6.—INDUSTRIES

The natural resources of Hokkaido are remarkable and as it is called the northern treasure house, the future of industries in the Island ought to be a bright one. There are 1,350 *ri* of coast-line along which marine products abound, and three million *cho* of largely arable land. One *ri* equals 2½ miles and one sq. *cho* equals 2.45 acres. In addition the natural growth of timber is very rich and the underground minerals also. Hence if these are more thoroughly exploited, the productive power of the Island will increase tremendously. At present the main industries are (1) agriculture, (2) fisheries, (3) mining, and (4) manufacturing.

Though there are variations in the advance of these four, yet in general the progress is remarkable.

The annual amount received from industries during recent years is shown below:

Date	Amount
1909	¥ 67,445,688
1910	92,496,579
1911	108,750,084
1912	129,108,320
1913	122,648,068
1914	141,413,388
1915	150,555,159
1916	227,698,067
1917	324,186,847
1918	456,435,747

In contrast we give below figures during the Meiji era.

Date	Amount
1870	¥ 399,244
1872	1,893,656
1877	3,275,245
1882	7,905,435
1887	7,026,889
1892	12,211,308

Agriculture

This heads the list, with over a million *yen* realized in the last year from this source alone. The area of cultivated lands is now 700,000 sq. *cho*, as against 800 in the first year of Meiji (1868). This shows the remarkable advance made in two score and ten years. But of the 1,450,000 sq. *cho* of land known to be arable, about 750,000 sq. *cho* is as yet untouched, and the projected area is only 14.1% of all the arable land. So there is ample space for more settlers and room for future development.

The land is fertile and well suited for raising grain, fruit, and vegetables. Ten years ago but little rice was raised but now drainage and irrigation are common and over 60,000 sq. *cho* is devoted to paddy fields with a yield of 860,000 *koku* (1 koku=4.96 bu.) The land is also adapted to sericulture, as the hills are covered with mulberry trees growing wild and silkworm disease, is almost

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wholly absent. The mulberry leaves are better than those of the Interior. Since the time of the Shogunate subsidies have been granted to assist the silkworm industry and various plans are being formed.

Stock-raising

This industry has made great advance in recent years, because the natural grazing lands supply rich pasturage for cattle and horses. Since 1868, the cattle have increased 55 fold and horses 20 fold. In 1894 live stock was estimated as worth ¥23,000. In 1917 it had become worth ¥3,750,000 or 160 fold increase. Thus we may readily predict the future advance in this regard. In recent years sheep-raising and the wool industry have attracted the attention of both officials and private parties, as also the opportunity this offers for fertilizer for agriculturists. We shall now show in more detail the progress of agricultural enterprises in the Island by the figures below.

Date	Receipts from Agriculture	Receipts from Livestock
1870	¥ 473	——
1897	7,410,043	¥ 112,710
1912	53,458,101	1,481,182
1918	148,896,544	6,636,449

Cultivated Land

In 1869, when the Colonization Department was established, farming was undertaken in Oshima province and other sections and the cultivated land was then only 815 sq. *cho*. In 1886, when the Prefectural Government was established it reached 30,029 sq. *cho*. Since then, it has shown very striking progress. In 1917, it reached over 700,000 sq. *cho*; and the soil is rich and fertile. Especially the lands along both sides of the Ishikari river were well cultivated. The area of paddy field projected for the future extends about 300,000 sq. *cho*, and the land to be utilized as fields is in reality 1,150,000 sq. *cho*, and the area of already cultivated land is as follows:

CULTIVATED LAND

Date	Paddy fields	Ranches
1869	332. cho 3	482. cho 9
1897	6,023. „ 2	136,683. „ 0
1912	49,352. „ 4	568,257. „ 7
1918	67,101. „ 6	664,148. „ 6

The number of farmers' households has gradually increased.

Date	Farm households
1897	54,328
1912	160,344
1918	185,333

Principal Agricultural Products

The principal agricultural products in the Island are rice, wheat, and other grains, red beans, soy beans, green peas, rape seed, millet, sorghum, buckwheat, potatoes, maize, cole seeds, hemp, mint, onions, hay, duckweed, nuts, pears, grapes, cherries, prunes, plums, gooseberries, suguri (Ribes grossularioides), strawberries, etc. According to the latest investigation, the area covered by paddy fields was over 60,000 sq. *cho*, whose total production amounted to over 110,000,000 *yen*. Rice culture was experimented with in various places. The certainty of harvest is now generally recognized. Ishikari province is best sulted to this crop and it is an inspiring sight to see the plains covered with one vast rice field. No other province can parallel this feature. All varieties of wheat grow well in Hokkaido. A part of the crop is shipped away and the rest consumed in the Island. Barley is used partially for beer brewing. Wheat is manufactured to a great extent into flour. Rye is the staple food. The production of oats has increased greatly since the Government began to purchase oats for horse feed and munitions. Red

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beans and soy beans are shipped to other prefectures in Japan, and also green pease and rape seed. The latter two are sent abroad in considerable quantities, and form one of the chief exports. Sorghum, maize and buckwheat are used for food, cole and flaxseed is sent out to be used in manufacturing oil; potatoes are used for food and also for making starch which is sent abroad. Flax is grown for linen manufacture, and hay is produced for army use as well as home consumption. Mint is a specialty of Kitami and Teshio provinces. Its manufactured products are sent abroad and the demand for these is steadily increasing. If 300,000 sq. *cho* could be utilized as paddy fields and 1,150,000 for ranches in the near future, a population of 4,500,000 persons could easily be supported.

Sericulture

It has been known for 150 years that mulberry trees grew wild on Hokkaido's hills and mountains and the authorities early attempted to encourage this industry as a secondary occupation for the farming class. There have been ups and downs and the business is even yet only in the experimental stage, but it is believed that the prospect for the future is bright. With climate and topography favorable, we ought to raise 100,000 cocoons at least. The scarcity of hands is one cause for the slow progress made hitherto, and also the inadequate supply of mulberry leaves. The figures for 1917 are about as follows: Amount of cocoons, 6,500 *koku*; value of silk thread and floss silk, ¥150,000; area covered by mulberry trees, 3,800 sq *cho*.

Grazing

The climate is very well suited to stock raising. In the period of the Shogunate Government the authorities already established pastures at Abuta, Uzu, and Urakawa; and again in the time of the Colonization Department, the authorities officially established a number of pastures in important places, in plants and management of stock closely imitating models of Europe and America, and the Hokkaido Prefectural Government too endeavored to encourage this industry and thus the entrepreneurs of said industry gradually increased. The establishments of pastures managed by the Imperial Household or by the government is now 16, with private pastures 903, whose area is over 281,000 sq. *cho*. Total area of both is over 177,000 sq. *cho*.

Stock-breeding

Horses and cattle lead, in numbers, with sheep coming next. Horses were imported from abroad, even from olden times, but are prone to deteriorate from imperfect care. Efforts are now being made to import the best breeds and raise the grade of stock. We have now 6,000 head of foreign bred stallions, and improvement is very noticeable. As to cattle, cows and oxen are raised in limited numbers, and when the breed deteriorates, importation of fresh blood from abroad is resorted to, to improve the quality and increase the number. The majority of Hokkaido stock is now of foreign or mixed breed, with very little pure native stock to be seen. Great progress has been made on account of the fine natural advantages, bnt improvement, especially in management, is still a pressing need, in order to supply horses for the army, domestic animals for farmers, milk and meat and wool for food and clothing and export, and to utilize the land.

Agricultural Experimentation

The government of Hokkaido has established two experiment stations—one

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supported from the Imperial treasury and the other from local sources—to carry on experiments and present the results to those interested. The Headquarters for general experimentation is at Sapporo, while branches are set up in four other places, viz., Oshima, Kamikawa, Togachi and Kitami. Each locality makes experiments along the line of its own specialties. In addition, the national funds support experimentation in peat land cultivation as well as land covered with volcanic débris; moreover leading farmers in undeveloped sections have been encouraged to make experiments in various lines. These experiment stations carry on farm work, as sowing the seed, drilling, fertilizing, and maturing the crop, at seven different places, viz., Hiyama, Sedana, Iburi, Teshio, Nayori, Kushiro, and Nemuro, and the workers personally instruct farmers as to the results.

Precautions against Disease in Sericulture

Such are based upon the Regulations governing the Raw Silk Industry now in force. They are carried out by the Board of Supervision of Sericulture of the Hokkaido Prefectural Government, and also at Sorachi, Kamikawa, and Mori. Supervision extends to the making of egg cards, cold storage, care of worms, and methods of guarding against disease.

Stock-Breeding Station

Such have been maintained for some time in order to produce superior breeds of cattle and hogs, etc., which are sometimes disposed of to private parties, or loaned as sires.

7.—MARINE INDUSTRIES

As Hokkaido is an island with an extensive seacoast, it will be readily understood that various kinds of fish and marine plants grow in the waters which wash her shores, and the favorable sea currents cause them to grow so luxuriantly that the region is noted for its marine products. This industry was, indeed, the first to be developed, and was in the early years the most valuable of all; later it was outdistanced by other industries, but in recent years is making equal progress with the rest; the traffic in tunny, yellowtail, shark and bonito is especially flourishing. Open-sea fishing is doing well nowadays, while fresh-water fish are found in abundance in the rivers, streams, lakes and swamps which abound in the Island. The enlightened measures adopted by the government to promote the industry, such as the search for new fishing grounds, the improvement of fishing tackle and accessories, and new methods of preserving the harvest have encouraged optimistic forecasts as to the future. The resources of the Kurile Islands, too, have been investigated and a new steamship line established, all of which helps to improve the outlook. The tables below give interesting data for five consecutive years.

STATIONS

Date	Fishing stations	Men engaged
1914	46,366	269,209
1915	47,423	135,615
1916	49,559	141,834
1917	50,248	40,994
1918	51,011	141,107

BOATS

Date	Fishing Boats	Motor Boats
1914	61,160	61,188
1915	60,141	60,218
1916	60,583	60,672
1917	60,851	60,954
1918	61,329	61,477

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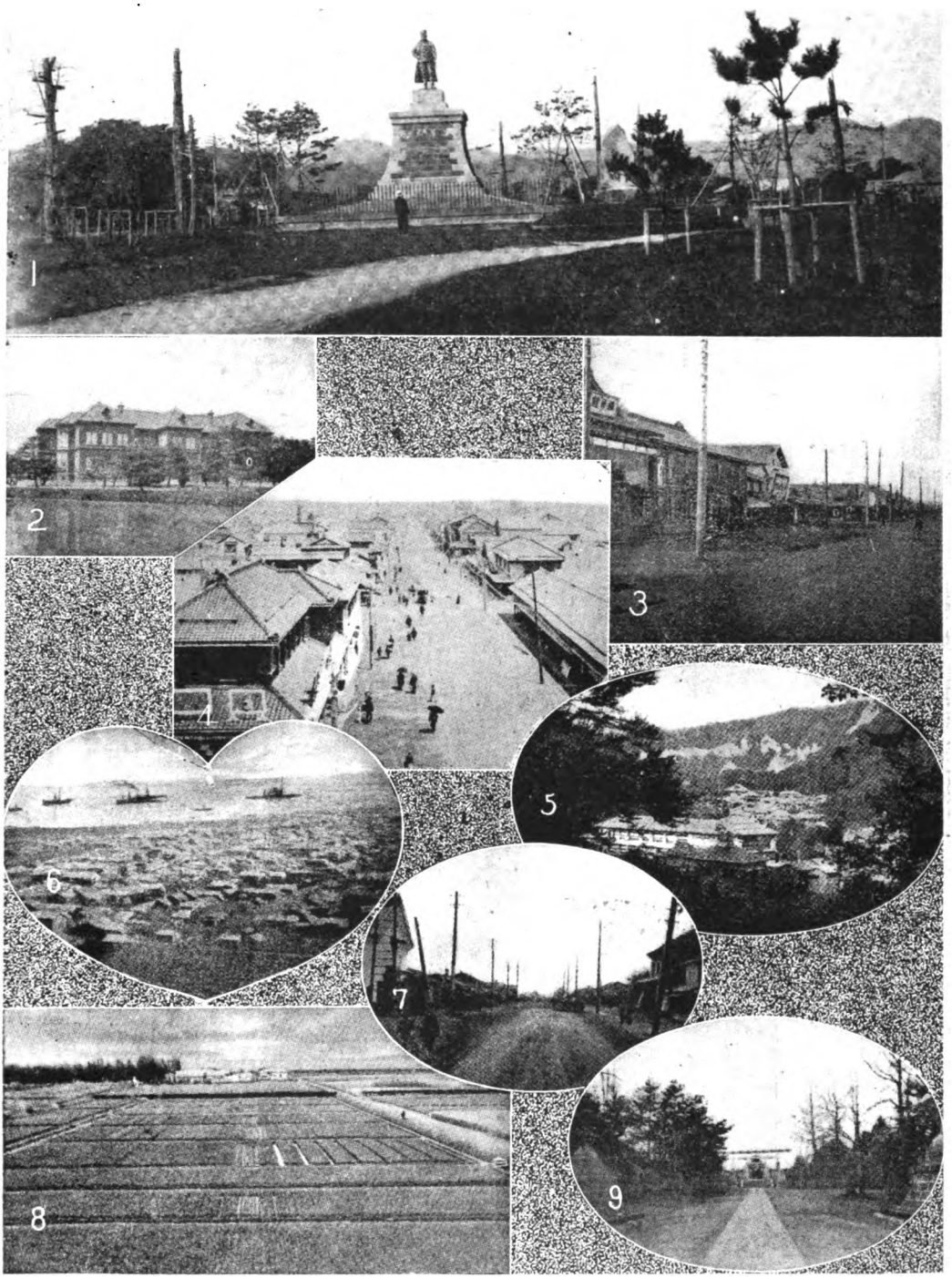

1 Sapporo Park 2. Government Buildins, Sapporo 3. View of Nokkeushi 4. City of Asahigawa
5. Noboribetsu Spa 6. General View of Abashiri 7. An Obihiro Street 8. Rice Field at Kamikawa, near Asahigawa 9. A Sapporo Shrine

Scenes from Hokkaido

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1. School of Fur-Seals. Kurile Islands, Hokkaido
2. Herring Fishery at Rumoye. Hokkaido
3. Grazing Cattles at Tsukisappu, Hokkaido

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NETS

Date	Drag nets	Fyke nets	Spread nets	Seines	Miscellaneous
1914	9,063	333,164	216	2,696	17,248
1915	8,695	334,729	204	2,328	16,329
1916	8,329	336,257	169	1,945	16,150
1917	8,486	349,828	180	2,243	15,480
1918	8,447	364,046	192	2,215	15,096

VALUE OF AQUATIC PRODUCTS

Date	Fish harvest	Deep-sea fishing	Aquatic manufactures	Total
1914	¥18,187,694	¥ 4,500	¥18,452,189	¥36,644,383
1915	16,802,467	33,178	15,838,475	32,675,120
1916	22,728,007	56,276	24,463,270	47,247,553
1917	21,985,024	173,076	26,227,436	48,385,536
1918	30,057,921	64,738	32,990,785	63,113,444

The principal aquatic products are herring, salmon, salmon-trout, sardines, codfish, cuttlefish, solefish, sea sugs, scallops, and laminaria, or kelp. Herrings are caught everywhere along the littoral, but the principal regions are Shiribeshi, Ishikari and Teshio which together contribute almost one-half of the entire aquatic production.

The fishing season extends from the latter part of March to the first part of May. Fish may be caught by dragnets when coming toward shore to lay their eggs. Of the sea products 28% is utilized as food and the remainder as fertilizer. Formerly canned and smoke-dried exports were sent abroad in considerable quantities but now most of this is consumed in the Interior of Japan.

Cod

Deep-sea fishing has been gradually developed, the two principal grounds being the vicinity of Riishiri and Reibun, two islands of Soya province, and the sea about the Kurile Islands near Nemuro. But other vicinities furnish the same also, the season extending from November to May. The cod fishers commonly use the so-called "Kawasaki boat" with a crew of seven, using a rope net or "nobenawa" in the coast regions. The production from cod alone is over ¥1,300,000. The fish, fresh, stale, or slightly salted, is shipped out as "fresh cod" and the rest is dried (*bodara*). This is the major part of the catch. The greater part of the product, both dried and "split," is sent to China, but some is shipped to the Interior.

Dried Cuttlefish

Cuttlefish or squid is found chiefly on the Oshima and Shiribeshi coasts. The value last year was ¥3,500,000. It is largely used as dried cuttlefish, or *surume*. Of this 70% is exported to China as second-grade *surume*.

Seaweed

On almost every coast kelp or laminaria japonica is found, but a superior quality is produced in the regions of Nemuro, Kushiro, Hidaka, Oshima, and Riishiri, and this is shipped to the Interior. Nemuro and Kushiro produce the best grade, which is largely exported to China.

Sea Cucumber or Sea Slug

This is found everywhere on the coast, but mainly in Nemuro and Teshio. The "8-foot dragnet" is used. This fish is called *namako* or trepang when fresh, and *iriko* when dried. It is largely exported to China.

Scallops

The ligament from this mollusk is

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esteemed a great delicacy, and is largely exported to China. Scallops are found in Nemuro, Kitami and Ishikari.

Salmon

The principal fishing grounds are Ishikari, Kitami, Nemuro, and Chishima (Kuriles). The season is from November to the end of December, but regulations are being enforced to protect the industry, by alternating in the occupation of grounds and respecting the breeding season. Dragnets are used and the catch is received in refrigerator boats, and wrapped in straw matting or slightly salted. It is shipped south and is much prized by the people of Japan.

Salmon-trout

The amount of production has become greatly reduced and the fishing grounds are limited. The principal localities for salmon-trout are Nemuro, Ato, and Etoro (Kuriles or Chishima). The fish is shipped to the Interior, either stale or slightly salted, and some portions are canned.

Turbot (sole fish)

This is found mainly along the coasts of Shiribeshi, Teshio, and Hidaka. The fishing season is from November to May. In the winter the fish is shipped raw to Tokyo, and in summer used as fertilizer. It is also found on the southern coasts of Kushiro and Iburi.

Tunny and Yellowtail

The catch is mostly from the south littoral, where warm and cold currents meet.

Crab

The season is between March and June. The localities are Riishiri, Soya, Nemuro and Ato-Etoro. The net used is a fyke net.

"Taraba" Crab

The whole catch is canned and exported to England and America. In a year about 50,000 cases are sent out, each case containing 48 one-pound cans.

Salmon and trout propagation is being undertaken by the government as the catch has diminished seriously in recent years. Fishing in rivers is also prohibited, except where incubation is practiced and the young fish released. From the stations for incubation maintained by the authorities at Chitose, Iburi, Nishibetsu, and Kushiro, 6,000 fish are set free in the rivers in a year. From the 30 private establishments for incubating fish eggs nearly 100 million fish are raised, and the proposal is now made to double this number every year. In 1919 both public and private stations produced 160 million young salmon. The production of trout from one public and three private incubation plants was 14 million; a red-trout station produced 3 million, and an official station set free over 700,000 *himemasu* or "maiden trout" into Shikotsu lake.

There is an experiment station in Shiribeshi, near Otaru, and branches at Muroran, Kushiro, Nemuro, Soya, Chitose, and Nishibetsu. The two latter are mainly devoted to the artificial production of salmon and trout, while the others are devoted to general experimentation, instruction and encouragement.

VALUE OF PRINCIPAL AQUATIC PRODUCTS

Product	1914	1915	1916	1917	1918
Herring	¥ 9,983,840	¥ 7,343,030	¥ 8,201,891	¥ 6,592,936	¥ 9,991,854
Salmon	834,601	1,055,696	255,892	1,425,765	2,749,092
Trout	328,437	550,023	484,718	1,230,234	1,104,044
Cod	650,628	629,611	778,337	933,270	1,156,501
	—	7,836	9,696	103,265	17,797

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Sardines	337,329	844,542	1,029,318	1,672,076	1,379,209
Turbot or sole fish	486,926	713,626	900,896	1,182,031	1,450,374
... ...	119,266	146,122	180,029	212,856	487,524
Tunny...	44,046	64,855	81,308	145,519	607,903
	——	10,043	19,815	29,729	32,035
Yellowtail	44,813	88,394	233,077	100,074	514,414
Shark	99,989	73,555	158,467	191,235	307,334
Sea bream (Menukidai) ...	——	4,450	7,517	19,250	750
Abalone (Sea Ear)	62,397	30,863	58,624	138,859	188,578
Oyster	21	399	4,044	3,516	11,856
Scallops	743,669	590,969	185,505	160,370	749,894
Cuttlefish	1,522,948	793,586	2,866,207	2,365,954	1,567,162
Octopus	56,989	58,237	97,392	152,324	254,575
Taraba Crab	348,819	128,541	180,725	230,711	406,169
Seaslugs	162,815	205,934	583,919	484,692	342,232
Laminaria	1,523,500	1,804,472	4,217,142	2,957,196	4,609,929
Seaweed	28,744	40,537	126,902	55,967	121,677
Araria pinnatifida	18,852	20,356	16,124	43,625	25,862
Laver	16,382	18,221	23,826	72,773	18,550
Hides	629	1,790	808	943	1,590
Miscellaneous	772,504	1,213,108	2,662,713	1,632,097	2,611,138
Total	¥18,188,144	¥16,816,960	¥22,755,339	¥22,034,003	¥30,090,706

Marine industries have made remarkable progress in recent years. For instance, the canning industry was formerly limited to salmon and trout, but now includes tunny, yellowtail, bonito, crab, lobster, abalone and other shell fish. Lobster and crab especially find a favorable market in Europe and America.

As to herring, preservation was formerly limited to drying (mikaki nishin) but nowadays it is salted, smoke-dried and canned.

VALUE OF MARINE PRODUCTS

Date	Foodstuffs	Fertilizer	Miscellaneous	Total
1914	8,294,355	9,596,189	561,646	36,639,254
1915	7,895,064	7,520,790	423,621	32,640,152
1916	14,084,136	9,516,430	862,704	47,191,277
1917	14,460,434	10,476,761	1,290,241	48,212,460
1918	17,302,811	13,593,837	2,094,137	32,990,785

8.—INDUSTRIES COMMERCE AND TRADE

Industries

Most of the industries in Hokkaido are still in the infantile state, but most are making rapid progress. Those now carried on on a large scale are the brewing of beer, the manufacture of hemp goods, paper, flour, iron and steel and the production of juice from unripe persimmons. The cause of this progress is first the initiation of various enterprises by the government and subsequent transfer to private parties, second the abundance of raw material available and the heavy demand for these products. The abundance of coal underground and the numerous mountains and valleys above facilitate the manufacture of hydro-electricity. As colonial development advances, these industries make progress, too, and gradually the first crude manufactures are replaced by more finished products.

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The Island is still suffering from a great handicap affecting its industrial development. Much raw material must be shipped away, worked over and shipped back again before the finished products are available. Hence private capitalists are urgently needed, and it is most important to let it be known that investments in Hokkaido enterprises are likely to be increasingly profitable as time passes. The number of factories already established and hands employed may be seen from the table appended herewith:

Date	Factories	Employees	Day laborers
1913...	298	25,605	5,807
1914	373	19,644	7,222
1915...	294	15,024	9,178
1916...	267	13,379	4,075
1917...	2,458	46,605	34,147
1918...	2,973	52,671	16,866

NUMBER OF FACTORIES RUNNING IN 1918

Factories	1918	1917
Dyeing and weaving	99	85
Machinery and Implements.	116	103
Chemicals	83	72
Minerals	28	27
Miscellaneous	366	303
Special...	12	15
Foodstuffs	2,673	2,458
Total	2,973	2,458

VALUE OF PRINCIPAL PRODUCTS IN 1918

Class	1918
Starch	¥18,193,048
Spirits	11,039,413
Beer	3,650,872
Soy	3,042,180
Bean paste	1,280,992
Canned goods	1,922,378
Wheat flour	1,648,917
Persimmon juice	779,051
Iodine	763,391
Machine paper	10,548,055
Cement	5,370,000
Chloride of potassium	888,643
Sulphuric ammonia	1,134,670
Carbide	1,189,837
Machinery...	25,814,703
Match wood	1,197,727

The names of the principal factories and companies operating in Hokkaido are as follow: The Japan Steel Works; The Hokkaido Iron Foundry. The Tomakomai Factory of the Oji Paper Mfg. Company; the Yebetsu Factory of the Fuji Paper Mfg. Company; The Sapporo Factory of the Teikoku Hemp Company, The Japan Hemp Manufacturing Company, The Sapporo Brewery of the Dai-Nippon Brewery Co.; The Hakodate Factory of the Dai Nippon Fertilizer Company; The Hokkaido Factory of the Asano Cement Company; The Kamiya Saké Brewing Company; The Ishibashi Soy Brewing Company; The Lumber Factory of the Mitsui Products Company, The Nitta Shibu (persimmon juice) Factory; The Shibu Branch of the Japan Hide and Leather Mfg. Company, The Oiwake Coke Manufactory; The Sapporo Flour Mill Company; The Sapporo Earth Works Company; Nitta Veneering Mill.

Of the various manufactures from raw material produced in Hokkaido, we may mention: spirits, beer, bean paste, soy, starch, mint, hemp string and textiles, wheat flour, paper, match wood, persimmon juice. Also from aquatic products, the canning industry is being built up and chloride of potassium is manufactured. From minerals found in the Island coke, cement, bricks, artificial fertilizer and machinery is made. In addition planing mills, rice-cleaning mills, hydroelectric plants, and gasworks are in operation, the latter having been long established, with branches in six places.

Commerce

During the time of the Shogunate trade was carried on chiefly from three ports, viz., Fukuyama, Esashi and Hakodate. However, as the northern part of the Island was developed and its trade became important, the port towns became less flourishing and only Hakodate retained its prestige. Now Otaru, being well situated and having a good harbor

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has risen from a mere fishing village to be a rival of Hakodate. Furthermore the ports of Muroran, Kushiro, Nemuro, Wakanai, Rumoye, Iwanai, and Suttsu have gradually increased in importance, and Hakodate has become a distributing center for these localities even extending its trade to the Kurile Istands from Oshima province.

Otaru harbor is a port of delivery for commodities sent to the northwestern coast and the fertile plain of Ishikari. In recent years, the development of industries in various places has accompanied the advance of trade and industrial enterprises have stimulated economic expansion. The constant coming and going of trading vessels, domestic as well as foreign, has made commerce more flourishing year by year. This trend during the last five years is shown below:

Date	Shipped to interior	Exported abroad	Total
1913...	¥83,413,774	¥13,970,418	¥97,384,192
1914...	88,177,866	16,548,532	104,726,398
1915...	132,906,630	15,389,441	148,018,971
1916...	129,938,729	19,582 988	149,521,717
1917...	213,373,430	27,556,910	240,930,340
Date	Shipped into the Island	Imports from abroad	Total
1913...	¥94,173,134	¥7,046,808	¥101,219,942
1914...	91,094,157	7,633,094	98,727,251
1915...	80,018,971	5,754,767	85,773,738
1916...	102,288,575	5,427,633	107,710,208
1917...	136,981,972	8,219,801	154,210,773

As to domestic commerce, until the middle of the Colonization Department period there were no staples produced except marine products for export abroad. Since then, however, industrial enterprises have made greater progress and various products are now exported to foreign countries. These were mainly natural products or crude articles as we enumerated in the tabulation above mentioned. And again we will give the figures for industrial products shipped out of the Island.

VALUE OF HOKKAIDO EXPORTS

Date	Aquatic	Mineral	Industrial	Agricultural	Forestal
1913	¥35,916,094	¥ 4,798,696	¥15,213,799	¥16,461,682	¥ 5,579.366
1914	36,192,879	5,996,909	21,825,499	17,199,892	4,647,247
1915	30,052,331	28,879,383	48,106,096	20,524,050	3,540,582
1916	37,147,984	12.779,696	47,745,281	24,532,285	4,799,616
1917	49,141,375	28,253,251	82,457,952	37,081,754	14,011,810

The leading goods brought in from Japan proper are drygoods, fixtures, spirits and sugar.

VALUE OF HOKKAIDO IMPORTS

Date	Aquatic	Mineral	Industrial	Agricultual	Forestal
1913	¥10,654,109	¥2,144,076	¥37,110,889	¥36,992,594	¥ 135,712
1914	9,780,697	1,300,067	44,645,046	28,022,883	331,075
1015	9,755,638	2,589,964	39,518,842	18,945,922	304,009
1916	12,122,869	3,757,238	58,453,924	21,088,626	866,366
1917	14,238,828	3,554,132	84,715,012	27,380,238	1,158,283

As to foreign trade, it was initiated when Hakodate was opened as a trading port in 1859. In 1889 Otaru harbor was regarded as a special exporting port; and again in 1899 it became one of the open ports in general; soon afterwards, Kushiro, Muroran and Nemuro were recognized as open ports, and now these five ports have became the main ports for foreign trade in the Island.

As to the exports of the Island, agricultural products are the chief, followed by industrial, while as to imports, petroleum and sugar come first.

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Marine products are exported from Hakodate to China and agricultural products from Otaru to England, France, Vladivostok, Russia, China, and Kanto Shu. Of mineral products sulphur is sent from Hakodate to the United States and Australia, and coal from Muroran and Otaru to the various ports of Eastern Asia. Of forestal products railway ties and sided timber are exported to China, Europe and America from Otaru, Muroran, and Kushiro.

We must now explain the use of the terms imports and exports as applied to the peculiar trade between Hokkaido and the Eastern coast of Siberia. Here the imports consist of salted salmon and trout—the harvest of fish taken in Russian waters—and the exports are salt, rice, and fish nets. In this sense of the words we must understand the figures below:

Date	Exports	Imports
1913	¥2,180,839	¥5,218,762
1914	2,020,752	6,140,687
1915	2,735,308	4,604,365
1916	3,644,643	3,862,836
1917	5,407,709	5,382,277

Finances

The financial conditions depend upon the prosperity of the economic centers in the Island. These are especially flourishing in the fishing and farming seasons, when marine and agricultural products are harvested and exported. In regard to banks, in 1868 the Mitsui Bank handled the funds of the Colonization Department. Later the Hokkaido Colonial Bank opened headquarters in Sapporo, with branches in the principal cities and towns in the Island. This bank supplied capital for exploitation and colonization projects and also issued bonds. In 1917 the number of banks in Hokkaido was given as 13, with 69 branches within and without, as well as agents. The figures are given below:

BANK STATISTICS

Date	Term	Main Bank	Branch	Paid-up Capital	Reserve Funds
1913...	1st	13	39	¥7,914,480	¥2,056,533
	2nd	13	40	8,127,570	2,203,013
1914...	1st	12	38	8,103,000	2,330,969
	2nd	12	39	7,863,000	2,398,408
1915...	1st	12	39	7,488,000	2,439,087
	2nd	13	39	8,007,438	2,442,909
1916...	1st	13	60	8,019,250	2,536,607
	2nd	13	60	8,019,250	2,667,529
1917...	1st	13	64	8,169,250	2,813,303
	2nd	13	65	8,169,250	2,953,182

Date	Term	Income	Outgo	Net Profits
1913...	1st	¥ 509,011,668	¥ 508,614,256	¥ 471,712
	2nd	697,340,267	669,245.716	462,862
1914...	1st	968,281,364	998,335,652	361,240
	2nd	937,370,466	968,645,808	421,225
1915...	1st	743,367,014	245,102,896	438,864
	2nd	1,042,977,301	1,041,603,214	447,260
1916...	1st	899,263,640	900,764,572	482,196
	2nd	1,705,995,114	1,703,973,181	527,995
1917...	1st	1,560,576,516	1,548,758,513	690,252
	2nd	2,569,124,938	2,579,694,316	1,101,067

AMOUNT OF DEPOSITS

Date	Deposits	Balance at end of year
1913... ...	¥ 566,150,466	¥33,712,200
1914... ...	565,295,452	38,531,008
1915... ...	606,366,005	42,132,555
1916... ...	1,013,078,282	60,289,144
1917... ...	1,520,152,139	78,561,164

AMOUNT OF LOANS

Date	Loans	Balance at end of year
1913... ...	¥ 336,301,749	¥ 55,822,502
1914... ...	852,098,617	56,648,636
1915... ...	360,201,049	56,150,226
1916... ...	494,076,263	77,941,670
1917... ...	847,448,484	103,377,985

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The savings deposits reflect the real strength of the people of the Island, and these bear a close relation to the condition of the money market. The Bank savings are shown in the following figures:

Date	Depositors	Bank Savings	Per capita
1913...	¥57,335	¥ 1,759,304	¥30.685
1914...	66,295	1,822,809	27.496
1915...	76,178	2,411,191	31.736
1916...	83,858	4,140,753	49.378
1917...	93,807	6,592,137	71.031

AMOUNT OF POSTAL SAVINGS DEPOSITS

Date	Depositors	Postal Savings	Per capita
1914...	¥455,247	¥ 8,373,717	¥18.393
1915...	508,844	10,401,502	20.441
1916...	564,933	15,770,127	27.915
1917...	591,518	27,880,535	47.134
1918...	741,971	25,889,510	34.845

Corporations

According to the investigation in 1917, the number of corporations reached 834. Of these, Joint-Stock Companies number 221 and Joint-Stock Companies Limited, 418; those with Unlimited Partnerships are 195. The combined capital is 53,440,000 *yen*. Of these, the amount of paid-up capital is 29,850,000 *yen* and the amount of reserve funds is 6,180,000 *yen*. In addition to having many main offices in other prefectures, they are investing large sums of money in the Island and are undertaking various enterprises. These corporations are growing year by year and greatly contribute toward the prosperity of the Island, besides stimulating the promotion of industries.

There is one stock exchange—a grain exchange—incorporated in Otaru. There are three Chambers of Commerce, one in Hakodate, one in Otaru, and the other in Sapporo. The Hokkaido Prefectural Government maintains an exhibit for the local productions of the Island at Sapporo.

9.—POLICE AND SANITATION

Police

In 1872, the Colonization Department first established headquarters and branch stations for the police. In 1882, under the Three Prefectural Governments, police stations were placed in various localities. In 1887, the main headquarters was abolished and 22 police stations and 68 branches were established in various localities. In 1891, police boxes were first used; in 1903, boxes for police sergeants were established. In 1918, there was one station for police inspectors, 19 police stations, and 42 branch stations, besides an assistant police inspector's box, 74 police sergeant's boxes and 505 police boxes.

Cases of fire are very numerous in the Island; and with the increase in dwelling houses, these are becoming more and more frequent. The causes are mainly that a fire is more frequently needed on account of the cold climate and that the construction of houses is very flimsy and there is a lack of fireproofing, as is common in newly opened lands everywhere; and moreover, almost every year, between April and May, violent gales visit Hokkaido, while the rainfall is very slight.

Rivers in the Island sometimes overflow in the season of melting snow or in the time of heavy rains in the summer and autumn, and houses are swept away

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and the life of both man and beast is likely to be endangered. All parts of the Island are visited by violent storms and high waves and thick fogs. Since navigation in this section is not an easy matter there are not a few cases of shipwreck in developing marine transportation and the fishing industry year after year.

In recent years, with the progress of industrial enterprises factories with engines and machinery are increasing and also through the sudden rise of electrical enterprises, improvements in mining, railways, roads, harbors, and irrigation are being effected; and also the actual carrying out of engineering work. The need for the control of explosives increases, as ex-convicts and escaped prisoners and other dangerous characters are coming into the Island in no small numbers. There are three prisons, Kabato, Togachi and Abashiri, which are capable of receiving a number of long-term prisoners. Ex-convicts are wandering around in various places in considerable numbers. Among criminal cases, there are a comparatively large number of brutal crimes, murder, robbery, etc. In short, there is evidence that there are many bad men in the Island, criminal cases being estimated at about 20,000 annually. Of these thefts, fraud, usurpation, gambling, injuries, etc. are the leading cases.

Sanitation

In a Japanese settlement like Fukuyama and Esashi in olden times the sanitary conditions did not differ from those of various provinces in the Interior, but as to the Ainu in other localities, since they lack sanitary knowledge epidemics often prevail among them, whence a large number of victims fall a prey to disease, and the population decreases.

Since the Colonization Department was inaugurated, hospitals have been established in various important places throughout the Island, and medical schools built in both Hakodate and Sapporo. A group of physicians have been trained up and vaccination enforced among the people. Efforts have been made to prevent other epidemics while a quarantine station has been established in Hakodate to promote sanitation. Not only is sanitary knowledge being gradually diffused, but the facilities for transportation and convenience in supplying commodities, too, are incomparably better than in olden days; wherefore we may say the sanitary state is in the way of improvement, since the death rate of the people in general is, in some degree, smaller if this be compared with that of the average death rate of the entire population of Japan. And also the birth rate in the Island is larger than that in all Japan. Though violent epidemics of typhoid fever, paratyphoid, diphtheria, tuberculosis, beri-beri, malaria, etc. occur every year, yet since the year 1912 the number of cases has gradually been reduced.

As to the number of physicians in the Island, in 1818, physicians were 1,569, dentists 54; the proportion is one physician for every 1,532 of the population. There are 216 pharmacists, and 1,229 midwives. Of hospitals, there are 10 public and 191 private. The public hospitals built in Sapporo and Hakodate especially are said to be perfectly equipped, and such as you rarely see in such localities. Both Hakodate and Otaru have superior waterworks, and also there are in addition a number of towns and villages possessing the equipment of waterworks. From the outset, though

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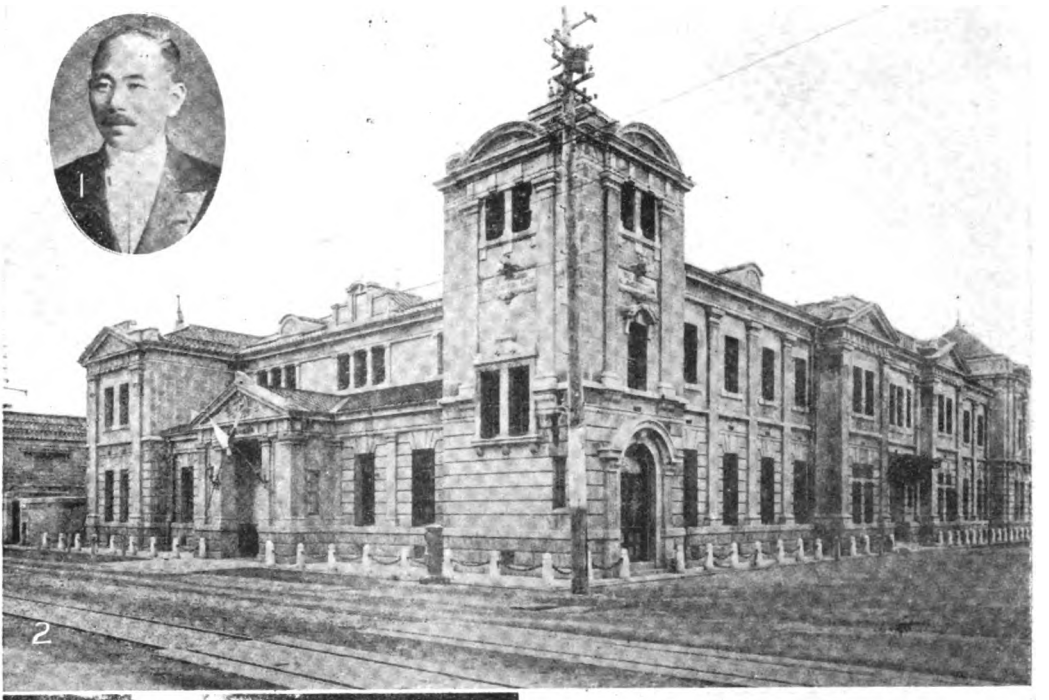

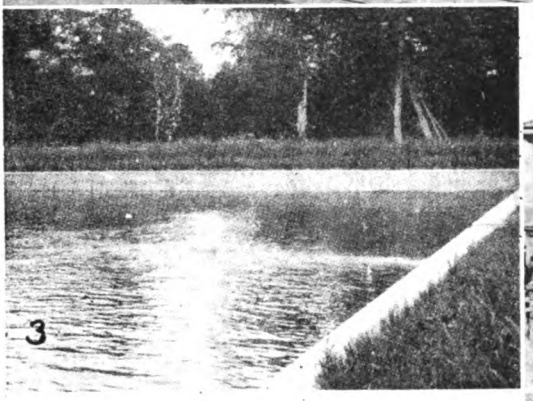

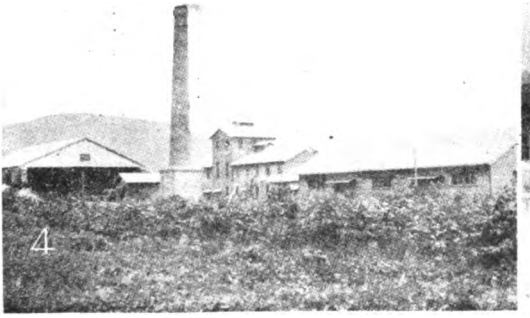

1. Mr. Mizukoshi' President Hokkaido Colonization Bank 2. Head Office of The Hokkaido Colonization Bank, Sapporo 3. Watewrorks, Toyohara, Saghalien 4. Okura's Wor.s 5. Toyohara Branch of the Hokkaido Colonization Bank 6. Government Hospital, Saghalien

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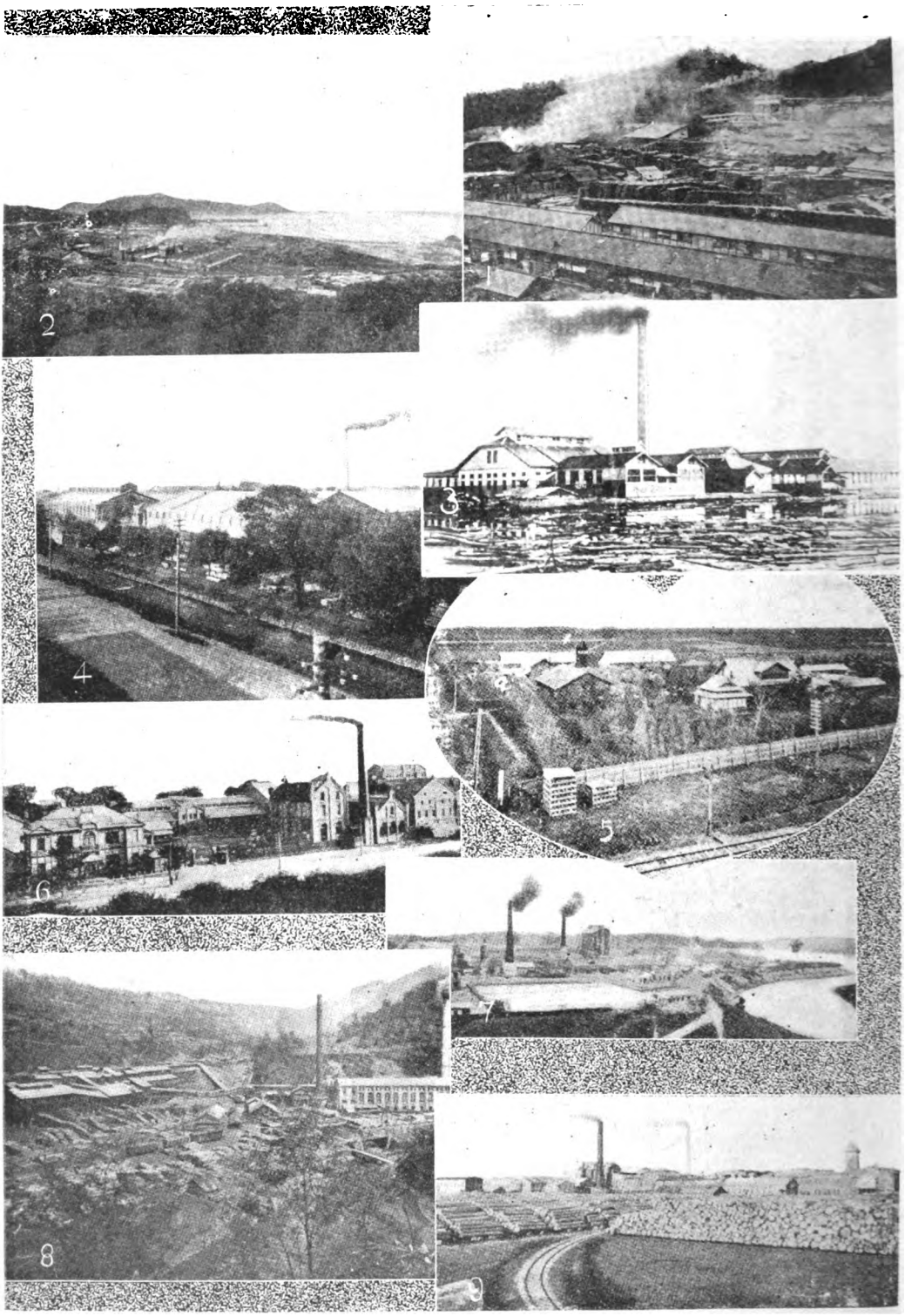

1. Horonai Coal Mine 2, Japan Steel Works 3. Nitta's Veneering Mill 4. Imperial Hemp Mfg. Co. 5. Marquis Mayeda's Farm 6. Japan Brewing Co, Sapporo Factory 7. Oji Paper Mill, Tomakomai Factory, Hokkaido 8, Yubari Coal Mine 9. Fuji Paper Mill, Yebetsu Factory, Hokkaido

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the Island possesses tolerably good water except those localities in the peat land sections, yet most of the inhabitants have not been settled a long time in the Island and have not paid very much attention to their drinking water—even now many of them are using rivers, springs and creeks for drinking water. The case being thus, it is an extremely dreadful thing in view of health preserving and sanitation and prevention of epidemics.

10.—THE KURILE ISLANDS (CHISHIMA)

The Kurile Islands include the islands from Kunajiri, east of Nemuro, a province of Hokkaido, to Shimushu, which is separated by a narrow stream of water from Kamtchatka in Russian Asia. The Kuriles consist of 32 islands, large and small, in a straight line extending 635 miles and covering an area of 2,860 sq. miles. From the first, those from Etoro belonged to Japan and those in the north belonged, it was said, to Russia, but the historical facts are enveloped in obscurity. The Russians occasionally came over to Etoro and thence arose diplomatic disputes between Russia and Japan repeatedly; consequently in 1874, an agreement was concluded between our commissioners and hers in the following terms, that both mutually recognized that the Kurile islands belonged to Japan and Saghalien to Russia.

The physiographic features are mainly of recent formation except two or three. Generally speaking, the highest hill being a centre, most of the islands lie in a row between the Pacific Ocean and the Sea of Okhotsk.

As to the climate there are no accurate records but though the sea currents prevailing in this group of Islands bring cold, yet it is unlike the cold of Siberia.

In the winter season the northwest wind frequently blows and the weather is usually fine, but in the summer season the weather inclines to be misty and rainy, and sometimes thick fog occurs.

As to the sea currents, the cold current coming from Bering strait washes the southeastern coast, while a branch of the Tsushima current coming through Soya strait runs along the northeast coast and turns to the northwest but this is not so large as the former.

In the summer it is warm through the influence of the warm current, but in the winter the influence of the cold is greater.

The sea along the line is frozen over every year between October and March; and from the middle of March to May icebergs from the Siberian coast often invade this section by way of the northwest. Though some keep watch over the surface of the sea yet sometimes icebergs they connot see through the water float there. In connection with the wind, these happen more in the southern part than the northern part.

In regard to the distribution of animals, in the southern islands, there are bear, fox, marten, hare, squirrel, otter, sea-lion, seal, sea otter, and of marine life, there are salmon, trout, cod, herring, sardines, tunny, yellowtail, sharks, etc. In the central island, we find only foxes and

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rats on the land and in the water but a few fish.

As to the aquatic animals, there are the sea lion, seal, fur seal, etc. Whales sometimes visit here, but they seldom stay as in the northern part or in the southern part. In the northern part there are most abundant fish.

From 1912, the cod industry suddenly rose and now it has reached its height. Though crab was found abundantly in this section, yet in recent years the harvest of the same is reduced. As to aquatic animals, they are the same as those of the central part; however, of the land animals, there are bear of Kamtchatka line and fox, ermine, etc. As to the feathered tribe, there is no indigenous species except wild duck throughout the entire group. The greater part come in the spring and propagate and then return southward in the fall.

They are mostly water fowls; great schools of guillemot (Alca antiqua), Yezopelican, sea gulls, etc., come together and live there. The Kurile Islands were not much noticed by the Japanese in olden times, but foreign fishing boats eagerly took note of said group from the earliest times.

Then some Japanese fishermen visited said group to hunt aquatic animals. In the early part of the Meiji era, foreign sea-otter hunting boats approached the sea off said group of Islands. They often caught sea otters and fur seals. At about that time, some among our Japanese people having learned of the hopefulness of aquatic animal hunting and the state of their propagation went over there, but alas, when they reached the place they soon discovered the number of these animals to be extremely diminished. This was entirely due to the fact that hitherto those hunting aquatic animals in this section executed their will without taking any caution for the protection of the species. Therefrom these families of aquatic animals were on the verge of extinction. Thereupon our authorities adopted a policy to protect these species. We note that the sea otter is in some degree reviving nowadays, but of fur-seals, the aim of protection has not yet been fully attained. In 1911, in Washington, D.C., U.S.A., four official commissioners, British, American, Russian and Japanese, had a conference in regard to this subject and an agreement concerning the forbidding the hunting of these aquatic animals was finally concluded; and each treaty Power provided regulations to control said subjects within its own realm. In our country, the authorities decided to adopt a policy to protect fur seals living in the Kurile group and Karafuto (South Saghalien), and to forbid the hunting around the propagating sections and this has continued hitherto. It must be observed for 15 years from 1912. Thus the authorities appointed superintendents in various places of said group of Islands in order to put these places under their surveillance; and as side work, in order to utilize the land not needed and unfitted for the fishing industry let them undertake fox raising.

In said group of Islands there are various kinds of foxes, viz., black fox, silver hair fox, cross fox, red fox, crimson fox, etc. Crimson foxes live exclusively in the northern part; and also these animals belong to the Kamtchatka line. The rest are living gregariously. Into certain isles where there were no foxes living, the blue fox of Commandroskie in the propagation station

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of the fur seal in Russia was imported in order to propagate the same there. In general, these fox farms are successful.

In recent times, fox farming is gradually increasing even in Hokkaido. These fox breeds were those native products being disposed by the Department of Agriculture and Commerce. Still more in the central part of said group of Islands the sea is comparatively shallow and the fish family is limited—while animals and plants are almost similar to those of Hokkaido Island. The northern part belongs to the Kamtchatka system; and in the central part, those belonging to both of these two systems live.

As to the inhabitants, the Hokkaido Ainu live south of Etoro Isle, while the Kurile Ainu live north of Etoro. They were formerly scattered over the entire group, but in 1884, the authorities made all the inhabitants emigrate into Shikotan, the number being 87, but they gradually decreased and are now reduced to more or less than 20 persons. Because of trouble of the respiratory organs and venereal diseases, their constitutions became enfeebled, and they also inclined to like playful hunting in accordance with their lazy habit of life instead of permanent honest occupation like farming. In their disposition, they are unlike the Ainu people in Hokkaido but seem similar to the natives of Kamtchatka in their features and customs. Their dwelling place is a board house in a dugout with a roof covered with sod. Therefore as a typical winter dwelling it must be warm but the ventilation is not adequate. The northern part, since the whole population has emigrated to Shikotan isle, has become an uninhabited island. In seizing the opportunity of absence, many a poacher appeared in this section. In 1892, therefore the authorities caused the inhabitants to be distributed over all the islands.

Lieut. Gunshi and his party, members of the Hokogikai (Public Service Society) settled in said group of Islands in order to promote industrial production in them.

The total amount of aquatic products in said group of Islands in the year 1920 reached ¥5,000,000.

11.—EDUCATION AND DEFENCE

The first attempt to provide educational advantages in Hokkaido resulted in the establishment of a school in Hakodate in 1871 and the building of an educational institute, the Shisei Kan, in Sapporo, where students were enabled to pursue courses of study either at their own expense or by government aid. In 1874 the Colonization Department established an Educational Bureau, and since then, progress has been so steady that now even remote villages are provided with schools.

Since the law regarding local support for schools was passed in 1901, the determination to provide educational facilities of every grade has been clearly shown. The Imperial University of Hokkaido, formerly the Sapporo Agricultural College, and the Higher Com-

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mercial School at Otaru provide higher education to cap a fairly satisfactory educational system.

Primary Education

In general it may be said that primary education has been well provided, following the lines of similar schools in Japan proper, but on account of the rapid increase in settlers, local resources often fail to provide school facilities for all. In 1891, special regulations were issued and these have since been revised somewhat, allowing some substitute to be adopted where localities are unable to provide the elementary school exactly as required in the original regulations.

Education of the Aborigines (Ainu)

Twenty elementary schools have been established for the Ainu by the authorities and thirteen have been established by a special fund provided for the use of educational commissioners. In 1916, in view of the progress already made, new regulations were formulated in regard to school age and courses of study to suit the actual conditions; the results have been very successful.

Secondary and Normal Schools

There were two normal schools in 1917 built by the prefectural governments—one in Sapporo and one in Hakodate. In 1918, there were 200 graduates from these—enough to supply the pressing need of teachers for the common schools.

Middle and Girls' High Schools

Of Middle Schools there are seven prefectural and one private, and of Girls' High four public and one private, besides the projected Practical Course Girls' School in the Muroran district.

Practical or "Real" Schools

Of these there are several excellent institutions, as the three Commercial Schools in Hakodate, Otaru, and Nemuro, and the Manual Arts School at Sapporo, somewhat like a school for apprentices.

Institutions of Higher Education

Of these there are the Higher Commercial School in Otaru and the Hokkaido Imperial University, formerly called the Sapporo Agricultural School, established in 1872, the first of its kind in the empire. In 1906 this was raised to the grade of college and in March, 1918, after a medical department had been added, to the rank of university, and is now known as The Imperial University of Hokkaido. From the outset it has produced many able men who have contributed greatly to colonial development. The Otaru Higher Commercial School was opened in April 1911.

Reformatories and Relief Work

These are as follows:

1. Reformatory for depraved youth.
2. Aid for paupers in general.
3. Relief work for calamity sufferers.
4. Military relief.
5. Relief for sick travellers and burial of the dead.
6. Care of foundlings.
7. Protection of the aborigines (Ainu).
8. Additional philanthropic and reform work.

A Reformatory was built by the Prefectural Government in December, 1908, to care for depraved youth, with a capacity for receiving twenty inmates at once. In 1918, its name was changed to The Sapporo Institute. In this an elementary school education is given and manual arts and farming are taught in spare hours. By the adoption of the family system, the intention is to build up the boys, characters and teach them trades. For the protection of the Ainu aborigines a

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law was passed in 1899 to assign arable land to them free of cost, and to prohibit them from selling or transferring this property to other than their lawful heirs. Almost the same restrictions were imposed upon the land already owned, and to those without means agricultural implements and seed were granted. Schools are provided for children of school age, and an allowance given to the sick. In Hokkaido philanthropic work for orphans, paupers, ex-convicts, etc. is being undertaken, the most notable of these institutions being:

The Hakodate Charity Institute.
The Otaru Charity Institute.
The Otaru Orphan Asylum.
The Hakodate Orphan Asylum.
The Sapporo Enyu Night School.
The Abashiri Teranaga Charity Institute.
The Hakodate Free Lodging House.

As the Island has many newly opened up pioneer localities and towns in which the citizens come from many different prefectures in Japan proper, old customs are not so fixed and rigid ceremonial is not so generally observed as in Japan proper. Hence some strong unifying influence is needed and reform work is vitally important. Since the Rescript of Boshin was proclaimed a number of young men's and young women's societies have been formed and these are stabilizing social conditions more and more. At present these are 1400 young men's associations with a membership of over 85,000.

SECONDARY EDUCATION (1918)

Kind	No. Schools	No. Students
Normal	2	567
Middle	8	3,412
Girls' High...	6	1,928
"Real"	13	3,284

ELEMENTARY EDUCATION (1919)

Schools	Number
Higher grades...	285
Elementary grades...	827
Special primary	282

NUMBER CHILDREN OF SCHOOL AGE

		1914	1918
Japanese ...	male ...	—	181,812
	female ...	—	157,812
Ainu	male ...	1,057	925
	female ...	889	645

Military Affairs

In the early days of the Restoration, the defences of the northern frontiers were gradually being strengthened. In 1878, colonial troops were placed in the neighborhood of Sapporo which were afterwards increased in various places. Besides undertaking the defence of the Island, they endeavored to assist in the work of colonization and in exploitation of its resources. In March, 1895, the Seventh Division of the Army was posted in Hokkaido. In 1896, military conscription was begun in four provinces, viz., Oshima, Shiribeshi, Iburi and Ishikari, and in December, 1897, a battalion of artillery was posted in the Hakodate fortresses. Thus defence measures have made great progress.

Afterwards, with the increase in population and able-bodied men, in 1898 the conscription system was extended to seven other provinces, viz., Teshio, Kitami, Hidaka, Togachi, Kushiro, Nemuro and Chishima, and thereafter it was enforced throughout the entire Island. But since the whole number needed to complete the Seventh Division could never be supplied by the men of Hokkaido alone, this lack was supplied by men brought in from other localities.

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FEATURES OF INTEREST IN HOKKAIDO

By S. TANOBE

SINCE Hokkaido is a part of Japan which was developed comparatively late, information as to the locality has been slowly disseminated among the people at large, but gradually Hokkaido is becoming well known to the world. Some of the main features of interest will be described in the following pages.

HAKODATE

This port is situated at a strategic point in Hokkaido, at a distance of 60 miles from Aomori city, and moreover it is the gateway through which every traveller must pass in going to the northern isle. This town rises from the seashore on successively higher and higher elevations. Its population has now reached over 150,00. The public buildings are the Court of Appeals, the Headquarters of the Fortresses, and the Consulates of England, America, and Russia. Since 1854, it has become one of the fine trading ports of Japan, the foreign trade being carried on principally with China and America. The Hakodate Public Park, located on elevated ground in the southern part of the city, was publicly opened in 1874. In this there are flowering plants and pine and other evergreen trees and also a library. On the southwest there is a background of mountains and hills and in the southeast the city faces the mountain ranges of Mutsu province just opposite, beyond Tsugaru strait. The views are superb.

GORYOKAKU

This is the ruin of an old castle located at Kameda village near Hakodate. The construction was started in 1854 and completed in 1864, and in appearance it is like a star. The chief designer and engineer was Seisho Takeda, a student of Dutch learning. In all directions the castle is surrounded by a deep moat and it has three gates and five bridges. The reason why it was built was because in that period all the ports of Hokkaido were stealthily watched by the Russians and hence it was built as a national defence work. Later it was occupied by the Lord Superintendent of Hakodate, but in 1868, when the Tokugawa Government was overthrown, Buyo Enomoto (later viscount) and Keisuke Otori (later baron), and others occupied it, and there resisted the Imperial Army; however, at last they were defeated, and surrendered to the Imperial Army in the following year. At present it is under the jurisdiction of the Army Department.

The outer moat is officially leased to a private party for the winter season. The lessee waits until the water freezes, then cuts the ice into small squares and places it on sale. This is the natural ice used in the interior, commonly called Hakodate ice.

THE SITE OF FUKUYAMA CASTLE

This is the remains of the castle built in 1600, by Lord Hisahiro Matsumaye in

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order to strengthen the defences of all the coasts of Hokkaido.

The construction of this castle required six years. A lord Matsumaye for generations occupied this castle. Though more or less changes took place yet for long periods the same family held the power as Daimyo of Hokkaido.

Now this site has become Fukuyama town, the three-story tower and the main gate being remnants of the Fukuyama castle of olden days. Is it not very interesting to see this three-story tower utilized as the City Assembly Hall? In half of the main castle there is a common school established and the other half is utilized for a public park. In the park, there is a potted pine tree bestowed upon Lord Matsumaye by Lord Mitsukuni Tokugawa which is even now luxuriantly growing.

Mt. Matsukarinubura

This mountain is in Shiribeshi province and is a dormant volcano whose slopes extend downwards in a beautiful cone shape, whence it is called "Yezo Fuji," as Yezo is the old name of Hokkaido. It rises 6,129 feet above sea level. In the summer season, strange grasses and wild flowers grow and bloom upon it. On the summit there is an extinct crater of perfect shape. If we climb high enough, all the provinces of Hokkaido will come within our view. A Yezo-Fuji Climbing Association has been formed to advise and assist climbers.

Kamui Point

Cape Kamui is a noted promontory projecting toward the north in the northwest part of Shakotan peninsula, Shiribeshi province. On the southwest side are successive precipices, and on the northeast, odd-shaped rocks project in strange fashion. At the point of the promontory one huge rock juts out and this was called by the Ainu "kamui," meaning "god." If they came across any awe-inspiring natural object they use this term for it and treated it as an object of superstitious reverence and fear.

In olden times, the violent billows of the northern seas frequently raged here and whenever sailors passed the point the chief was sure to pay reverence to this huge rock and offer "Inaho," a religious symbol, thinking the gods willed the violent dashing of the waves. The Ainu superstition influenced the ignorant sailors of Japan also. The story ran that this powerful god hated women and that if anyone took a woman around the point, dire disaster would surely follow. Hence though Ishikari and Teshio were explored by the Japanese they did not dare to take wives and children and settle thereabouts on account of this legend. However when the Shogunate ordered Yagoro Nashimoto to exploit these regions in 1858, he boldly took his brave wife and his children and went by sea. The superstitious seamen begged him to go by land if he was so determined to defy the god, but he laughed and said the Shogun had commanded him to carry out this work and what god had power to hinder him? His conviction was impressive and when he had safely made the dangerous circuit with his wife on board the ship, the news quickly spread and thereafter others living in distant parts without their wives began to take wives and children with them and settle permanently. Thus Otaru and Ishikari were built up.

Kamui-kotan

There are three places of the same name in Hokkaido. One of them is the name of the sea coast in Shiribeshi province. Originally "Kamui-kotan" was an

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Ainu word. "Kamui" means "a sense of god" and "kotan" means "place," or "the place where god is," or "sacred ground." Whenever they found anything strange or unusual, the Ainu people called it by this name, and feared and reverenced it accordingly. Now this "Kamui-kotan" is a precipitous promontory, 200 feet high, with trees growing thickly upon it, and below there are five or six-foot rocks, both above and below the water, making the rounding of the cape a hazardous feat. This is the shortest route to Otaru. The other route is long and circuitous, so there is some resemblance to Oyashirazu in Echigo province.

The Ainu believe that if one of the rocks breaks from the cliff and falls down it is an unlucky sign, so they throw "Inaho," some kind of a talisman, out when passing, and pray for safety. Occasionally a rock falls accidentally, but such an incident was sure to cause a panic in olden times. Difficult as the pass is, a railway was constructed through it by Crawford, an American engineer, with such skill and ability that now the place is entirely transformed and made safe for travel.

Sapporo

In 1869, the Colonization Department of Hokkaido decided to locate the capital here, and in consequence had the city laid out very systematically, with regular streets and roads, and succeeded so well that the place is considered a model and the best in Japan. In the environs of the city there are broad prairies and grazing lands in all directions, and the features of the landscape are on a large scale and such as resemble North American scenery. Americans coming to Sapporo say they feel just as if they were at home in America. Sapporo is located in Ishikari province.

Kamui-kotan

This is the most noteworthy of the three places bearing this name. It is in Ishikari province and designates the ravine in the upper part of the Ishikari river. It is a narrow part of the river formed by the rapid torrent as it runs between high hills. The trees are chiefly wild cherry which charm the eye in spring, while autumn leaves make the scene gay in the fall. The Ainu legend thus accounts for the formation of this abysmal place. It is said a devil tried to dam the river just here but that a benevolent god frustrated his designs by killing the evil one. This is the fanciful origin of the ravine and the reason for its name.

Lake Akan

Lake Akan is located in Kushiro province, is 17 miles around and contains four small islands. On all of them trees grow luxuriantly, making an exceedingly beautiful landscape. All around the lake there are evergreen trees and on the south shore two hot springs.

The lake is surrounded by mountains —on the east the cone-shaped peak of Oäkandake and on the southwest Meäkandake rises; the latter is higher than the former, being 5,207 ft. above sea level. Large quantities of sulphur are to be had on the summit, but as railway facilities are wanting, it is as yet impossible to make a commercial success of the industry. While it is true that transportation is very poor, yet the scenery of all this region is a fairyland of beauty.

Strange fish abound in this lake, especially the sort called "kaba-chebbo" one of the trout family, which was originally found only in this lake, but the

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authorities having placed the eggs in lakes Shikotsu and Toya, the fish are being propagated there, too, now and are known as *himemasu* or "maiden trout." The Ainu cut holes in the ice and catch the fish by hooks in Lake Akan.

The Tate-ana of Kushiro

In Hokkaido, in various regions, there are curious caves or pits found, sometimes several hundred together. These were made by the primeval inhabitants, perhaps the ancestors of the Ainu. The size and depth of the pits differ greatly, but they are usually 2 or 3 ft. deep, and 25 × 30 ft. in size; they are oftener found round than square. Kushiro is especially noted for these prehistoric dwellings, as many as one thousand being found in the neighborhood.

The whole region is elevated ground, with the sea on the south, the Kushiro river running west, and one lake on the east. From all these waters an abundant food supply may be obtained, making this an ideal locality for human habitation.

The afore-mentioned caves have been cleared of débris and prepared for house lots or farming land in most places, but where they have not been touched, relics are found such as broken pieces of pottery, arrow heads, etc.

Lake Shikotsu

This lake is situated in Iburi province and is the source of the Chitose river. It is 25 miles in circumference. On the south is Mt. Tarumaé and on the other three sides mountains rise, also, presenting exquisite views to the traveler. On the eastern side there is a break and the Chitose river flows out tumultuously, with waterfalls and cascades marking its course before it becomes, farther along, the Ishikari river. The first of these lovely waterfalls or cascades is the largest and is called the Chitose Fall. It is 53 ft. high and 50 ft. wide. As the river continues, old trees are seen lining its banks, and these localities impress one as very quiet and secluded.

Mt. Tarumaé is a volcano 3,353 ft. above sea level, and is in a state of frequent eruption. Three remarkable eruptions have been recorded, the latest being in January 1909.

Noboribetsu Hot Springs

This hot spring is the finest in Hokkaido. It is located about 5 miles northwest of Noboribetsu station, in Iburi province. It is in the valley which runs from the mountains crowned by Noboribetsu peak, and is 660 feet above sea level. In this region the main resorts are just below what is known as "Hell Valley," like Ojigokudani in Hakone. Boiling water gushes forth here in wells or in streams or in waterfalls or in one place in a small morass. There is also the remains of an extinct volcano in the neighborhood. As to the waters of the hot springs, these are of three kinds, sulphur, saline, and copperas, and thus all tastes ought to be satisfied. The resorts, of which there are several, have not as yet been developed as have the older, better-known resorts of the Interior. The foliage in the autumn is lovely in a valley called the "Dale of Tinted Leaves," and a clear, crystal stream runs between cliffs 150 ft. high in one place, charming the eyes of all visitors. Foreigners especially like the high and dry location of Noboribetsu resort.

Lake Toya

This lake is situated north of Uzudake in Iburi province, and is over fifteen miles in circumference, with one lone island diversifying the landscape. The water

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runs down on the southwest in a waterfall called the "Sobetsu Fall," 60 ft. high and 24 ft. wide. On all sides the lake is surrounded by mountains, and a view of "Yezo Fuji" may also be had from here. There is a circuitous pathway by which one may walk around the lake.

The peak known as Uzudake faces Funka bay on the south and abuts on Lake Toya in the north. This peak is ragged in shape and forlorn looking, as it has no vegetation. The small Uzudake near the extinct crater rises to 1,964 ft. above the sea level. Eruptions have occurred five times, the latest being in July, 1910.

Rumoe Station

This station is in Teshio province. The railway was opened in 1908. Of the natural resources, we may mention great catches of herring, coal and agricultural products. It has a hopeful future as an industrial center. The northwest faces the Sea of Nippon and on the southeast is a bay. The construction of the harbor, begun in 1910, is to take twelve years. When completed, this will be the western harbor of Hokkaido, opposite Kushiro on the south.

In addition we might mention Otaru, Muroran, and other towns, but we shall leave these for a later paper. We may state also that there are no doubt many attractive spots in Kitami and Togachi provinces, but as these are largely untrodden ground, we will not describe their beauties here.

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THE RED CROSS SOCIETY OF JAPAN

RELIEF WORK IN SIBERIA FOR CZECHO-SLOVAK SOLDIERS

IN June, 1918, in the Eastern part of Siberia, the Czecho-Slovaks fought the Bolshevists and as a result there were many wounded soldiers on both sides. On account of inadequate sanitary equipment, these were in an extremely miserable condition. The Red Cross Society of Japan could not look on in idleness, from the standpoint of humanity, nor could Japan as one of the Allies leave the matter alone. Accordingly our Society, having obtained in July the approval of the ministers of the Army and the Navy, organized a special contingent composed of a head surgeon, several assistants, and 106 nurses, and hurriedly sent it to Vladivostok. Landing in Vladivostok in the latter part of the same month they engaged a building used by the former Russian Army as a hospital and established in it the Relief Hospital of the Japanese Red Cross Society.

The major force of our Society, remaining at home, commenced operations from August 1, 1918. They were mainly engaged in receiving the sick and wounded Czech-Slovak soldiers and also captives requiring aid—Russians, English, French, Servians, Poles, Greeks, Germans and Austrians. With the extension of the war zone, the number of patients gradually increased. Dividing our forces, we sent a part in the direction of Harbin and *Hailar* and also organized a hospital train to start from Vladivostok and transport the sick and wounded patients scattered in the maritime province of Siberia, and various other localities in the Hohungkian region on the Chinese Eastern Railway, and there was soon a shortage of nurses in the main hospital. In the circumstances, the necessity of sending reinforcements was recognized. So again we sent two parties of relief workers of fifty nurses under a head surgeon and several assistants.

In January, 1919, twenty of the Czecho-Slovak patients in the main hospital were sent to Japan for change of air, and received in the Japan Red Cross Hospital at Tokyo. They recovered and retired from the hospital in February, when they were sent to their home land.

In July of the same year, upon the restoration of peace, the Czecho-Slovak army in Siberia withdrew and the men gradually returned to their homes. Consequently the Czecho-Slovak patients received at our hospital grew less and less, and hence, since their object was almost accomplished, the entire force of our Red Cross workers returned to Japan in the latter part of November of the same year. Two units, including a head surgeon, assistants and 50 nurses, were newly organized to succeed the former workers

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and sent to Siberia and a part of those working in the hospital at Vladivostok engaged in free dispensary work for suffering Russians, while another party of the same contingent was directly connected with our Japanese military garrison stationed in the same city and assisted in the Japanese Military Hospital there. These are even now staying on.

From August, 1918, until November, 1919, the number of Czech-Slovak and other patients treated (Japanese as well as foreign) is as follows:

Czech-Slovaks	patients	1,335
„ „	treatments	58,155
Foreigners	patients	790
„	treatments	6,285
Out-Patients	patients	4,185
„ „	treatments	22,969

Transported in hospital trains 1,137.

Recent Reports from Vladivostok

The patients applying for treatment are on the increase, and it is almost impossible to give an idea of the pressure and hardship under which the doctors are working. While the number our hospital can care for is limited to twenty, they are constantly receiving up to thirty patients; only seventeen men are available and they are under a great strain treating so many and of such varied nationalities —Russians, Japanese, Chinese, Poles, Turks, etc. Russians comprise 90% of those treated.

Another reason why the work is so arduous is that many day patients come for examination and treatment from 10 a.m. till 3 p.m. every day, while Tuesday, Thursday and Saturday afternoons are devoted to surgical operations. So the week days are fully occupied and even on Sunday there is no rest.

Again the inconvenience of the hospital building may be mentioned as another source of trouble. This was built for the marine corps originally, and hence is not suited for hospital purposes.

The number of different languages to be heard is another source of endless difficulty.

The number of patients recently treated at the Contingent Hospital established by our workers is as follows:

Out-patients	1,456
Treatments	17,378
Recovered	1,055
Present no. patients ...	401

Patients in hospital at the end of the month, classified by nationality:

Japanese	6
Koreans	4
Chinese	1
Russians	7
Poles	3
Turks	3

Out-patients

Japanese	66
Chinese	10
Russians	325

Patients treated by the contingent staff attached to the Japanese Military Hospital at Vladivostok during the same month, 52; number of treatments 362. Of these 36 recovered and left the hospital. Remaining: 16.

Further Relief work for Polish Orphans

Regarding the entertainment of Polish orphans mentioned in the previous number of this magazine, these further details should be added:

A second party of Polish orphans arrived in Tsuruga harbor on the liner *Chikuba Maru*, February 27th. There were 75 boys and 51 girls, 126 in all, accompanied by eleven nurses and guardians. They were welcomed by representatives from our Society and escorted to Tokyo, when they were at once taken to the Fukuden-kai building and warmly welcomed by those who had already prepared for them; after devotional services and refreshments, they were left free to talk or play together.

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1 Japan Red Cross Hospital, Vladivostok
2. Wounded and Sick Czecho-Slovak Patients, Japan Red Cross Hospital, Vladivostok
3. Japan Red Cross Hospital Cars in Siberia

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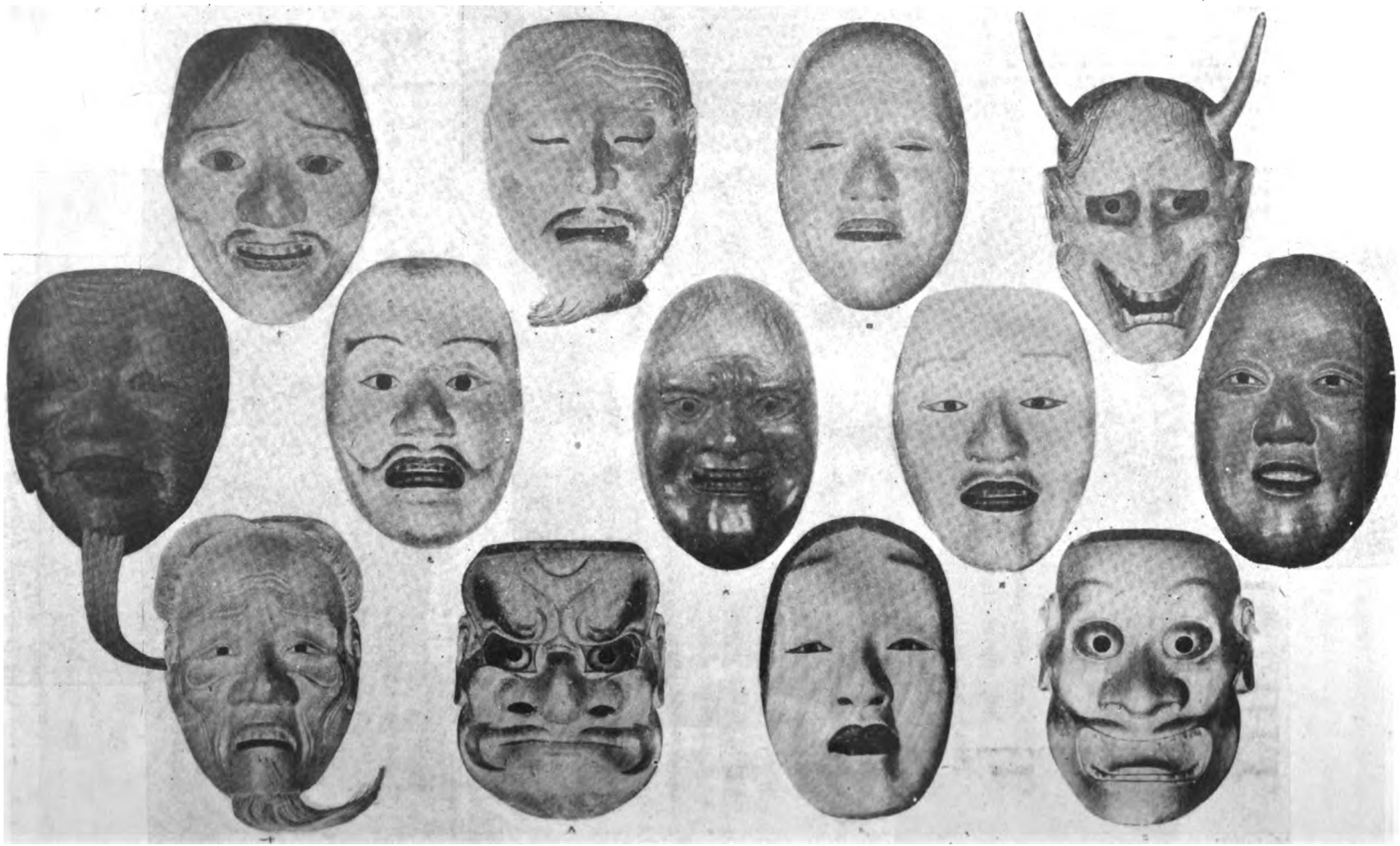

Okina | Kawazu / Ko-Jo | Heita | Kagekiyo / Oboshimi | Yama-uba | Uba / Zo | Kanian-otoko | Hanaya / Otobide | Shojo

"SMALL" MASKS

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THE MASKS OF THE "NOH" DANCE

By MARK KING

V

THERE are some old Japanese sayings about the "Noh" mask:—"The heart of the "Noh" dance is on the mask," and "Judge of the 'Noh' dance by the mask." We should say that "if you would like to study the 'Noh' dance, you must study its mask," and also "You must judge the 'Noh' dance by its mask and not by the movements of the dance."

Part (I).—The masks of the 'Noh' dance are made of wood painted in various colours, and they affect the mobility of the dramatis personae. There are about 120 masks with different countenances which are worn by the Protagonist (Shité) and his Companion (Tsuré) to suit each piece of the "Noh" dance in which they take part. The names of the most important masks of the dance are as follows:—

(1).—The "Okina" or the "Old Man's Mask" which is coloured with black, flesh, or white.

(2).—The "Jo" masks which are worn by the male and to give dignity to the dramatis personae. There are four different faces belonging to this particular mask.

(A).—The "Ko-Jo" which is worn by the young man of the dramatis personae in the following pieces of the "Noh" dance:—

"Arashi-Yama," "Ari-Dōshi," "Chikubu-Shima," "Chō Ryō," "Ema," "Hakurakuten," "Himuro," "Kasuga-Ryūjin," "Naniwa," "Oi-Matsu," "O'shio," "Shiga," "Shira-Hige," "Shō-Kun," "Takasago," "Tenko," "U-Getsu," "Yō Rō," "Yukyo-Yanagi, etc.

(B).—The "San-ko-Jo."

(C).—The "Asakura-Jo."

(D).—The "Warai-Jo" or the "Smiling Man's Mask."

The masks (B), (C), and (D) are worn in the following pieces of the "Noh" dance:—

"Akogi," "Genjō," "Hi-Un," "Kanehira," "Kuzu," "Nomori," "Ominaeshi," "O'shio," "Sanemori," "Suma-Genji," "Tadanori," "Toŏru," "Tō-Sen," "Ukai," "Utō," "Yashima" "Yorimasa," etc.

(3).—The male "Aku-Jo" masks are worn by the wicked dramatis personae. There are two different faces in this mask.

(A).—The "Washi-bana Aku-Jo" or the "Wicked Man with the Aquiline Nose Mask" is worn by the Second Protagonist (Nochi-Shité) in the following dance:—

"Domyō-Ji," "Naniwa," and "Shira-Hige."

(B).—The "Hana-kobu Aku-Jo" or the "Wicked Man with the Sore Nose Mask" is worn by the Second Protagonist in the "Tama-no-I."

(4).—The male "Tobide" or the

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"Goggle eyed Man's Mask" has three different faces as follows :—

(A).—The "Ko-Tobide" or the "Little Goggle-eyed Man's Mask" is worn by the "Kokaji," "Nuye," and "Sessho-Seki" in the "Noh" dance.

(B).—The "Dei-ko-Tobide" or the "Little Lambent Goggle-eyed Man's Mask" is worn by the "Chikubu-Shima," "Iwa-Bune," "Kasuga-Ryūjin," and "Mekari."

(C).—The "O-Tobide" or the "Big Goggle-eyed Man's Mask" is worn by the "Arashi-Yama," "Himuro," "Kamo" and "Kuzu."

(5).—The "Beshimi" or the "Ugly Man's Mask" is worn by the male dramatis personae. There are two different faces for this "Beshimi" mask :—

(A).—The "Ō-Beshimi" or the "Ugly Old Man's Mask" which is worn by the "Daié," "Kurama-Tengu," "Kuruma-Zō," "Zekai" in the "Noh" dance.

(B).—The "Ko-Beshimi" or the "Ugly Young Man's Mask" is worn by the "Himuro," "Kōtei," "Nomori," "Shōki," "Shō Kun," "Tanikō," "U-Kai."

(6).—The male masks, which are worn by the male dramatis personae, have many different faces for the following pieces of the "Noh" dance :—

(A).—The "Chūjo" or the "Lieutenant-General's Mask" which is used by the "Kiyotsune," "Michimori," "Ominaeshi," "Shunzei-Tadanori," "Tadanori," "Toŏru," and "Tomonaga."

(B).—The "Deigan" or the "Lambent-eyed Man's Mask" which is used for the Second Protagonist (Nochi-Shité) of the "Ama" and the First Protagonist (Mae-Shité) of the "Aoi-no-Uye."

(C).—The "Heita" is a mask worn by the common male dramatis personae, and it is worn by the Second Protagonist of the "Ebira," "Kanehira," "Tamura," and "Ya-Shima."

(D).—The "Kantan-Otoko" which is used for the "Kantan," and the Second Protagonist of the "Takasago," "Yōrō," and "Yumi-Hachiman."

(E).—The "Katsushiki" or the "Mendicant Man's Mask" which is used for the "Atsumori," and "Jinen-Koji."

(F).—The "Shikami" or the "Wry-Face Man's Mask" which is used for the "Momiji-Gari," "Ōei-Yama," "Rashō-Mon," "Shari," and "Tsuchi-Gumo."

(G).—The "Yase-Otoko" or the "Slender Man's Mask" which is used for the "Kayoi-Komachi," and the Second Protagonist (Nochi-Shité) in the "Akogi," "Fujito," and "Utō."

(7).—The female masks, which are worn by the female dramatis personae, have many different faces for the following pieces of the "Noh" dance :—

(A).—The "Ko-Omote" or the "Young Woman's Mask."

(B).—The "Magojiro."

(C).—The "Zō" or the "Adult Woman's Mask."

The masks classed (A), (B), and (C) are used for the following pieces of the "Noh" dance :—

"Eguchi," "Fuji," "Funa-Benkei," "Hanjo," "Hanagatami," "Hagoromo," "Hibari-Yama," "Izutsu," "Kakitsubata," "Miwa," "Matsu-Kaze," "Mutsu-Ura," "Nomiya," "Senzyu," "Sōshi-arai-Komachi," "Tama-Kazura," "Teika," "Tō-Boku," "Tomoye," "Uneme," "Yō-Kihi," and "Yuya."

(D).—The "Rōjo" or the "Old Woman's Mask."

(E).—The "Yase-Onna" or the "Slender Woman's Mask."

The masks classed (D), and (E) are used for the following pieces of the "Noh" dance :—

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"Higaki," "Obasute," "Ōmu-Komachi," "Sekidera-Komachi," "Sotōba-Komachi," and for the Second Protagonist in the "Kinuta," and "Teika."

(F).—The "Shakumi."

(G).—The "Fukai."

The masks classed (F), and (G) are used for the following pieces of the "Noh" dance :—

"Adachi-ga-Hara," "Ama," "Fuji-Taiko," "Hyakuman," "Kashiwa-Zaki," "Katsuragi," "Mii-Dera," "Rō-Daiko," "Sakura-Gawa," "Semi-Maru," "Sumida-Gawa," "Tomonaga," and "Torioi-Bune."

(H).—The "Han'nya" or the "Female Demon's Mask" is used by the Second Protagonist in the "Adachi-ga-Hara," "Aoi-no-Uye," and "Dōjō-Ji."

(8).—The "Jidō" or the "Boy's Mask" is used for the "Makura-Jidō," and for the First Protagonist in the "Tamura," and for the Second Protagonist in the "Tenko."

(9).—Besides the above mentioned there are many masks of varying form used for the individual character in each part of the "Noh" dance.

Part (II).—The old masks of the "Noh" dance are excellently got up, and the dancers set great store by them. The mask-makers of the old masks are as follows :—

(1).—Echi-Yoshifumi was a mask-maker about 550 years ago.

(2).—Fukuhara-Bunzo, about 800 years ago.

(3).—Himi Mune-taka was a mask-maker and priest about 650 years ago.

(4).—Ishikawa-Tatsuyemon, about 650 years ago.

(5).—Jakutsuru-Yoshinari, also about 650 years ago.

(6).—Koushi Kiyo-mitsu, about 550 years ago.

(7).—Miroku, about 1,000 years ago.

(8).—Nikko was a priest of the Mii-Dera Temple in Ōmi Province, and a mask-maker about 1,000 years ago.

(9).—Tokuwaka Tada-masa, about 550 years ago.

(10).—Yasha, about 900 years ago.

(1).—Chigusa was a mask-maker about 500 years ago.

(2).—Fukurai, about 530 years ago.

(3).—Hōrai was a son of Fukurai, and he also was a mask-maker about 500 years ago.

(4).—Sankō-Bō was a priest and mask-maker about 450 years ago.

(5).—Shun-Waka, about 530 years ago.

(6).—Zōami-Hisatsugu, about 550 years ago.

Besides all these there were three other mask-makers who were called (1) Demé, (2) Kodama, and (3) Iseki.

(Finis)

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STRANGE CHANCES

Translated by T. Wakameda from the Japanese of BAKIN

CHAPTER IV

The Shortest Chapter in This Story

ON arriving at Toshima, Jubei took his sister to his own house. Then he went to his master's, and told him how he had performed Buddhist services on the seventh anniversary of Ippachi's death, how he had erected a tombstone for him, how he had gone up to Koya, and how he had visited the Ise Shrine. Lastly he said, "I have a younger sister, with whom I parted when she was very young. She went to Ise, where she was married to a *samurai* and gave birth to two girls. Later she was divorced and was going with her younger child to her native place. Cheated by some knaves, she came down as far as Totomi, and there the child, who is six years old, was kidnapped. My sister was in great distress, when luckily I happened to pass by and rescued her. She has come back with me and is now at my house."

Totosaku, on hearing this, was surprised and said, "I am so sorry to hear it. How sad your sister must be, after being divorced, to lose her dear child! Bring her to my house to-day, and I will receive her kindly."

Jubei gladly gave this message to Akebono, who under her former name of Asake, went that evening to Totosaku's house. Nothing was farther from Totosaku's thoughts than the idea that this woman was the selfsame one who had once resolved to die with his brother Ippachi. Totosaku, who was still single, was soon much enamoured of her, and expressed his feeling for her whenever an opportunity offered. As for Asake, she had once been, so to speak, a wayside willow whose branches bend in all directions. But she hesitated to marry Totosaku, the younger brother of Ippachi, as she did not know what excuse to make to her brother. Notwithstanding, she was not strong enough to reject him, and at last she consented to give him her hand.

Totosaku was so much enraptured that before long he disclosed the fact to Jubei; and early in the following year he married Asake and treated the villagers to a feast. All this was scarcely agreeable to Jubei, but he could not disclose his reasons, nor could he dissuade his master from marrying his sister.

Totosaku, who was sickly by nature, was ere long taken ill. At last, in the third year after his marriage, he was gathered to his fathers. His nephew, Tsunagoro, was then fifteen years of age —a boy who liked wrestling, fencing and *jujutsu*. Though he was unlike a merchant's son, Jubei instructed him kindly from day to day and became his guardian. The business prospered more than when Totosaku was alive and the family lived more comfortably. Asake was ashamed of her past conduct and led a faithful widow's life.

It was at the Kuwana ferry that Asake was first deceived by the villains; it was on the Tenryu-river that she was deprived of her child. Water was a curse to her. All these ills were undoubtedly owing to the evil influence of Ippachi's spirit.

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